

RAILWAY AGE

WORKBOOK OF THE RAILWAYS

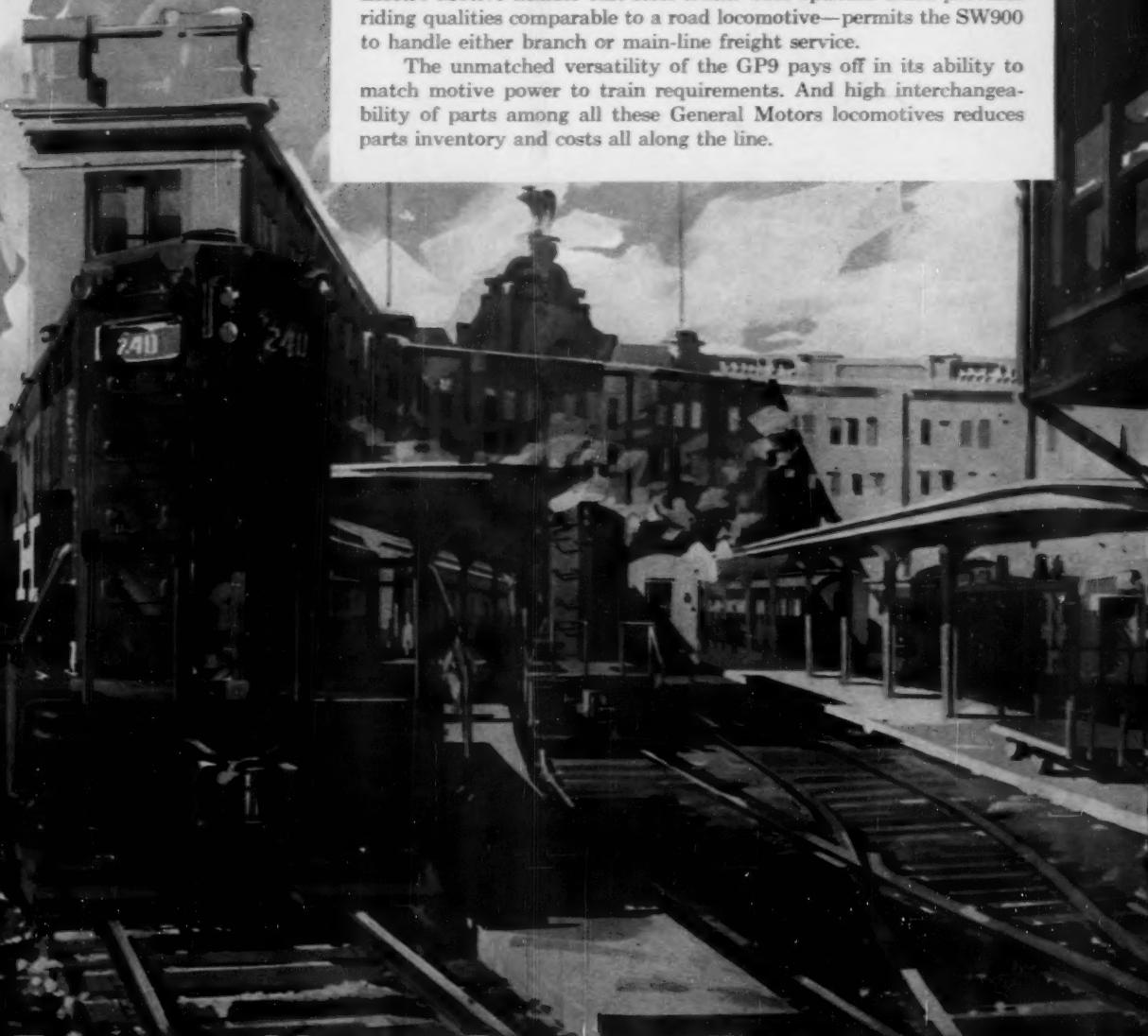
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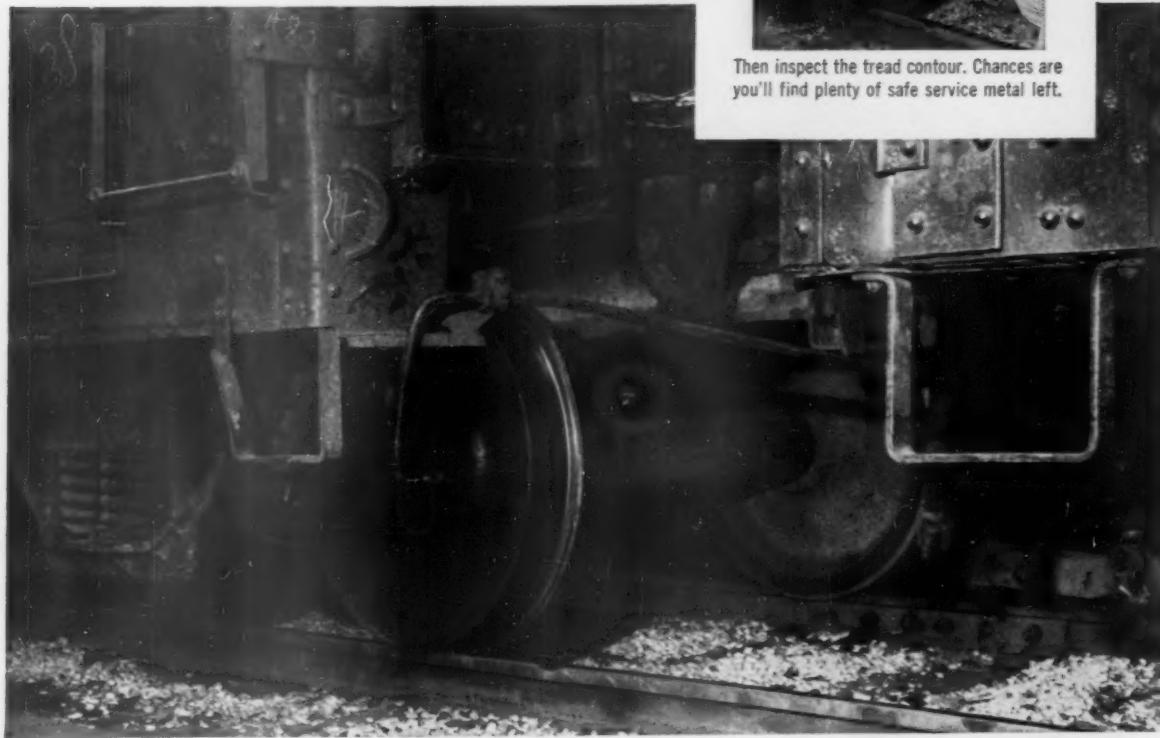
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No question about it, the coal hauled in this fleet gets de luxe transportation.

Among the many advanced features is the roller-bearing running-gear, which includes Bethlehem forged axles and Bethlehem wrought-steel wheels. The wheels are multiple-wear—a significant point in itself. For these are wheels that are built for extra-heavy duty, extra-long service, like everything else in the cars.

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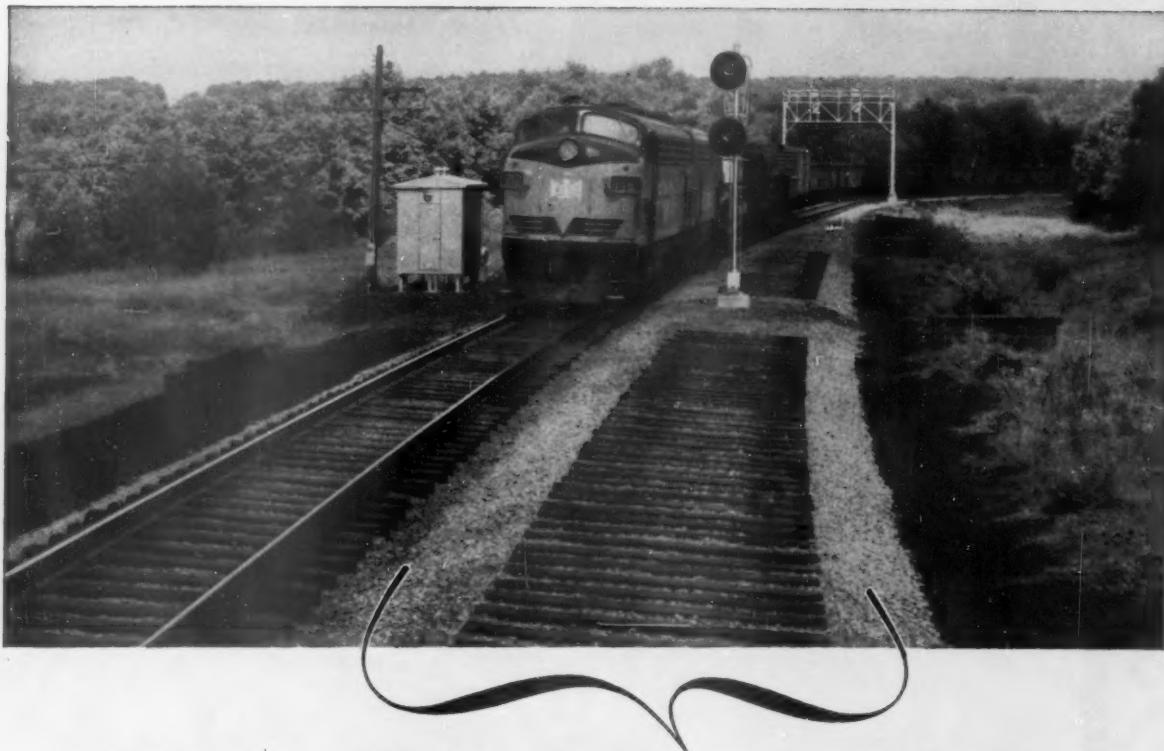
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UNION C.T.C. permits the entire railroad to be controlled from one point.



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Workbook of the Railways

Vol. 141, No. 25
December 10, 1956

CONTENTS and Week at a Glance

A rate system based on costs . . .

. . . to supplant the monopoly-bred "idiocies" of the existing price structure, is the railroads' most pressing need, A. E. Perlman maintains. He advocates use of agreed charges in the United States but sees a grave threat in the growth of common carrier piggyback. . . . p.7

Five leaders of RR labor unions . . .

. . . last week urged new federal legislation to provide freer competition among the nation's various transportation media. Their proposals were embodied in messages to the annual dinner meeting of the New York Railroad Club. . . . p.8

FORUM: Deregulation of common carriers . . .

. . . is opposed by some people, on and off the railroads, because they think a better remedy for existing inequities is to extend rate regulation to the carriers not now subject to it. But rate regulation of private carriers is impossible. Why not allow common carriers to engage in contract-carrier business where they can do it profitably? . . . p.33

CTC for light traffic lines . . .

. . . is being extended by the Burlington, after considerable successful experience with modified installations that cost very little more than automatic block. . . . p.34

"Concrete engine" . . .

. . . gives new life to old North Western switchers. Instead of scrapping them, they are being converted to boosters to work with General Motors GP-7's. . . . p.36

Line elevation clears streets . . .

. . . of a Boston suburb formerly crossed at grade by a busy B&M line. The benefit is largely to highway traffic, and the cost is being paid largely from vehicle taxes. . . . p.37

A market-minded president . . .

. . . that's the Erie's Harry Von Willer. He's convinced that the railroads' welfare depends on continuing research into markets and costs. . . . p.40



Another **GM**
contribution
to railroad
progress



Why your freight arrives earlier than ever before

ONE REASON IS PUSH-BUTTON YARDS which save hours in making up trains. As cars roll down the "hump," a finger-flick guides them through a maze of switches to the proper track. Meanwhile radar and electronic computers evaluate "rollability" (even wind resistance)—automatically actuate retarders which slow the wheels, so each car will roll just far enough to couple gently!

ANOTHER BIG REASON IS HYATT HY-ROLL BEARINGS for non-stop freight. The first cost and upkeep of this new simplified design is so low that railroads can now equip whole fleets of freight cars with roller bearings. Hy-Rolls are eliminating hotbox, lubrication and inspection delays—let freight trains roll on passenger schedules. Husky *straight cylindrical rollers* give HYATT Hy-Rolls greater load capacity—make them easier to install and maintain. No wonder the big switch is to HYATT Hy-Rolls—the best bearing for the long haul! Hyatt Bearings Division, General Motors Corporation, Harrison, New Jersey.

Watch "WIDE WIDE WORLD" Sundays on NBC-TV

HYATT HY-ROLL BEARINGS
FOR NON-STOP FREIGHT

Current Statistics

Operating revenues, ten months	
1956	\$8,792,282,647
1955	8,374,496,681
Operating expenses, ten months	
1956	\$6,731,852,843
1955	6,290,275,280
Taxes ten months	
1956	\$954,357,508
1955	923,822,927
Net railway operating income, ten months	
1956	\$894,770,856
1955	947,187,510
Net income, estimated, ten months	
1956	\$711,000,000
1955	749,000,000
Average price 20 railroad stocks	
December 4, 1956	94.85
December 6, 1955	100.18
Carloadings revenue freight	
Forty-seven weeks, 1956	34,449,475
Forty-seven weeks, 1955	34,243,704
Average daily freight car surplus	
Wk. ended Dec. 1, 1956	6,742
Wk. ended Dec. 3, 1955	6,576
Average daily freight car shortage	
Wk. ended Dec. 1, 1956	4,040
Wk. ended Dec. 3, 1955	5,103
Freight cars on order	
November 1, 1956	122,250
November 1, 1955	61,964
Freight cars delivered	
Ten months, 1956	53,563
Ten months, 1955	29,673
Average number railroad employees	
Mid-October 1956	1,041,456
Mid-October 1955	1,086,858

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Departments

Financial	16
Forum	33
Freight Car Loadings	9
Freight Operating Statistics	44
People in the News	42
Railroading After Hours....	41
Railway Market	9
Railway Officers	42
Supply Trade	52
What's News in Products....	31

Workbook of the Railways

Week at a Glance CONTINUED

BRIEFS

'Not So Good' . . .

. . . predicts Rock Island President Downing B. Jenks about the revenue picture for the first two months of 1957—although after that, he expects, it should be better. He feels that the chance of making effective any authorized freight rate increases before February is "doubtful" whereas the railroads' wage bill went up 6.4% November 1.

Reappointments to the ICC . . .

. . . will be given to Commissioners Richard F. Mitchell and Laurence K. Walrath, whose terms expire December 31. The White House has announced that President Eisenhower intends to make the reappointments.

A proposed multiple-car rate . . .

. . . equivalent to 41.1% of the carload rate on the same traffic has been condemned by the ICC. That relationship would not be just and reasonable, the commission said. The condemned rate was \$4.03, minimum 1,000 net tons per shipment, proposed for application on oyster shells moving from Mobile to St. Louis. The carload rate is \$9.80.

A diesel-hydraulic switcher prototype . . .

. . . has been unveiled by General Motors Diesel, Ltd. The new 600-hp unit has two 4-wheel trucks and is powered by two General Motors 6-110 engines. Its steeple-cab design is distinguished by reinforced-plastic hood structures and "Aerotrain" styling influences.

"Slumbercoach" is on tour . . .

. . . so that Burlington's ticket agents in Eastern cities—as well as other railroad men and guests—can see the new coach-rate sleeper service first-hand. Budd equipment held up by the steel strike is making the swing. All four cars originally ordered will be in service on the "Denver Zephyr"—and are already sold out—for the holiday rush.

First train in the country . . .

. . . to offer its patrons what was then, in the early 1920's, a brand new form of entertainment—radio, complete with earphones—was the Louisville & Nashville's Cincinnati-New Orleans "Pan-American," which celebrated its 35th birthday on December 5.

MORE ECONOMIES AHEAD

with Standard Solid Bearing Assemblies

Why and how elimination of "loose" waste and adoption of "controlled clearance" bearings will still further increase economic advantages of low cost Solid Bearings

YOU SAVE real money now with standard solid bearing assemblies. And soon you'll be saving even more—for two big reasons.

First, there's the program now in force to equip freight cars with "controlled clearance" bearings—standard bearings with finished bore diameters much closer to journal diameters on which they operate. You get a big extra margin of safety during initial run-in periods, and the time for run-in is greatly reduced. Right at the start the bearing load is distributed over a wide area. That's going to greatly increase bearing life.

Second, there's the program now under way to eliminate "loose" waste—either by using approved pad or mechanical lubricators, or by using an approved device to contain the lubricator—such as the R-S Journal Stop that performs the dual function of eliminating excessive axle displacement at the same time

that it anchors the lubricator (whether waste or not) firmly in position.

As soon as "loose" waste is eliminated, you'll see a big drop in routine servicing costs and another big jump in bearing performance. Three year periods between detailed bearing inspection are in prospect, too—you'll halve those costs for periodic attention.

There's no question about it. Solid bearings save you money now, and they'll save you more in the future. Then, too, you'll still have all the inherent advantages which solid bearings bring to railroad rolling stock. You can take the maximum load, make the fastest schedule. You save in unsprung dead weight, and you get the smoothest ride on any freight car truck. Best of all, you'll get top bearing performance at the lowest possible cost. Magnus Metal Corporation, 111 Broadway, New York 6; or 80 E. Jackson Blvd., Chicago 6, Illinois.

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Perlman Says Tie Rates to Costs

'Idiotic' rate structure in United States reflects lingering monopolistic attitudes, NYC president tells Canadians

Assailing what he termed "the idiotic railroad price structure" as something born of a "monopoly mind," New York Central President Alfred E. Perlman made a strong appeal December 1 for adoption by United States roads of agreed charges and "a rational pricing system."

He told the Toronto Railway Club that Canadian railroads have shown by their "own acts, much greater understanding of modern pricing requirements for transportation than have we in the States." Canada's agreed charges typify this understanding but are not the only example of it, he said.

In Canada, Mr. Perlman said, "you have a more realistic approach" to pricing. "It is high time that we at home began to face this situation objectively, for it represents the most pressing railroad problem of our time."

Commenting that he preferred to discuss "what we can do for ourselves" rather than complain about "what other people are doing to us," the Central's chief executive said regulation that treats railroads as a monopoly industry is "archaic and shocking." But, he declared, "it is quite another and worse situation for railroad men to stay in the habit of thinking of ourselves as a monopoly" even as they see traffic, which once was their own, moving in trucks, pipelines, barges, airplanes and, soon, "up the St. Lawrence Seaway."

This, he said, "is our great sin and weakness in our approach to freight rates."

"Conceived in monopoly days," Mr. Perlman declared, the railroad pricing structure "keeps our pricing system back in the 19th century while the 20th century rushes past us." He made the point that "in the good old days" railroads moved raw materials, ores and items like sugar beets to factories and mills at

loss-rates, making up the deficits with high rates on finished products.

Arrival of the truck on the competitive scene ended monopoly operations but, "because we cannot seem to comprehend that we are not a monopoly any more," Mr. Perlman said, "we have driven rates up" so far trucks steal the profitable business.

"Horizontal" rate increases such as railroads sought in 10 of the 11 rate boost applications since 1931 also came under Mr. Perlman's fire. He noted that in many cases they served to drive the factory-to-market transportation of finished products to truck carriers, leaving railroads with the less profitable, or profitless, movement of raw goods. As an example, he said the railroad movement of finished steel into Detroit for automobile manufacture dropped from 87% in 1947 to 14% in 1954.

"If profits are any gage of 'know how,'" Mr. Perlman went on, "I know of no other business which has shown less adaptability to changing times. . . . Right up to and including this last rate increase which we have requested, we have not awakened to the facts of life." He said he expects the railroads will get less than they sought and will wind up making "patch-work adjustments."

Blaming himself and others responsible for the rate structure, Mr. Perlman stated that "we cannot blame the regulatory bodies." He cited the experience of the power and light utilities which, though fully regulated and competing with such governmental operations as the TVA, operate profitably.

They do it, he said, on the strength of a "sensible pricing structure" and by insisting that, if they must provide stand-by service, they will charge for it.

Railroads too, Mr. Perlman stated, are a stand-by industry, "yet we

don't have the sense or the nerve or the imagination to charge stand-by prices." Instead, he said, railroads will charge no more to serve a customer who uses the railroads only when his own trucks can't handle peak volume than they charge a steady railroad shipper.

"Nobody complains" about power companies giving large users reduced rates, Mr. Perlman continued, but if railroads "adopt the same principle, we are [accused of] discriminating against small business."

"It makes sense to give a lower rate to a steady customer" and, he said, this is recognized in Canada

PERLMAN DEPLORES COMMON CARRIER T-O-F-C

"It is not enough what we have done to ourselves by our insistence upon sticking with a rate concept based upon what the traffic will bear instead of what it costs us to do the job. Now we are compounding the felony by destroying commodity rates with common carrier piggyback operations. There should be a distinction made between the railroad which hauls its own truck-trailers on flat cars and the railroad which hauls the trailers of any trucker who shows up—usually on a weekend so he won't have to pay a driver time-and-one-half. The former controls the rates. But the latter is giving away the railroads' natural advantage of cheap transportation to his competitor—and he is creating further chaos in the rate structure. The trucker pays the same rate to the railroad for hauling that trailer, whether it has 10 tons of machinery in it, or 10 tons of sand. And he gets super-speed service, better than the regular railroad customer who ships his goods in box cars at higher rates. How long will it be before all that's left for the box car will be low-rated commodities, while the high-rated product goes into the trailer-on-flat-car? And then where will the railroad that used to make its living hauling box cars be?"

where agreed charges are permitted.

Going further, he protested that, though they both use the same type cars and it costs about the same to move them, railroads charge entirely different rates to move coal and iron ore. A whole trainload of coal that may not have to be switched all the way from mine to plant is moved on the same rate, he said, as a single car switched 15 times to reach a particular siding. "It takes a man who has

spent his life in the business to read a freight tariff."

Adding impetus to the "idiotic railroad price structure," Mr. Perlman declared, is continuation of the 3% transport tax on freight while the cost of maintaining waterways soars and a \$100 billion highway program is demanded—all dragging more business away from the railroads.

Mr. Perlman called for a scientific study of what it costs to transport

freight, saying that the job should not be too complicated. "We need to know our costs," he said. "And once we get those costs, it does not seem to me to be impossible to build a flexible and practical rate structure around them." It would be better, he said, to find out what the costs are rather than worry about making changes in divisions or "fighting to get a bigger share of the rates on a smaller share of traffic."

Labor Chiefs Urge Fair Competition

NY Railroad Club hears strong endorsement of Cabinet Committee proposal to permit railroads and other carriers to adjust rates to 'constantly changing needs'

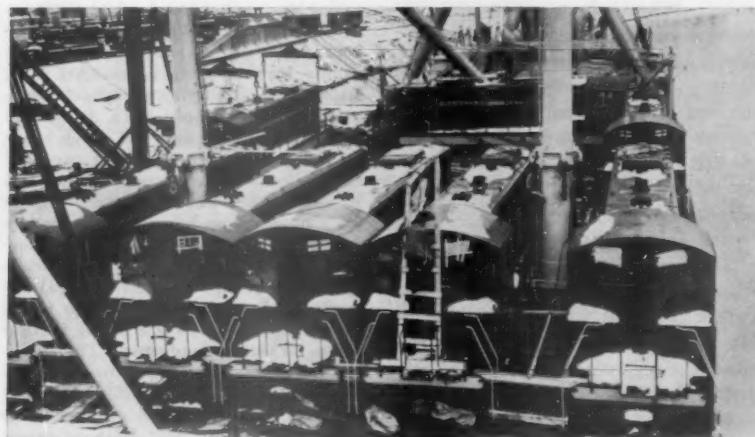
Leaders of five railroad labor unions joined last week in urging new federal legislation to provide freer competition among the nation's transportation systems.

Their views were expressed in messages read to the 84th anniversary dinner meeting of the New York Railroad Club at the Commodore Hotel.

W. P. Kennedy, president of the Brotherhood of Railroad Trainmen, strongly endorsed a Cabinet Committee proposal which would permit railroads and other carriers to re-

duce rates when they provide a reasonable profit and do not discriminate against competing modes of transportation. He urged early consideration by the new Congress of legislation to translate the proposal into law.

"It is high time that the shippers and consumers be given the consideration they deserve," Mr. Kennedy continued. "If a railroad or truck line, or barge line, can reduce rates and get more traffic without discriminating, and can make money in the process, it should be allowed to."



CNR's Newfoundland Line Going All Diesel

Twenty-six 1,600-hp narrow-gage diesel-electric road-switching locomotives, which will complete dieselization of the Canadian National's 705 miles of line in Newfoundland, were shipped recently from Montreal to the island province. Newfoundland will become the second province in which CNR

operations are 100% dieselized. Prince Edward Island was the first. Fifteen of the units were placed on wooden rails deep in the hold of the ship, and the remaining 11 (some of which are shown above), were placed on deck. Added to the deck load were five refrigerator cars and a crane.

T. C. Carroll, president of the Brotherhood of Maintenance of Way Employees, said the vital role played by railroads and their employees in war and peace "is often overlooked and disregarded in the unfair favoritism that has been so readily granted by our state and federal governments to the competitors of the railroads.

"Railway labor stands ready to support a program that will place all forms of public transportation on a fair competitive basis and assure railroad workers of job security, stability of employment and fair and reasonable working conditions," Mr. Carroll asserted. He said these aims could be attained only through a "drastic reversal of the discriminatory practices against railroads."

Guy L. Brown, Grand Chief Engineer of the Brotherhood of Locomotive Engineers, pointed to the tax on transportation, enacted as a wartime measure to keep traffic off the rails, as an example of outmoded laws that hamper the railroads.

"A new appraisal of the government's control of transportation is sorely needed," he said. "The organizations representing railroad employees . . . can well join the railroad management in urging the Administration and the new Congress to give serious and favorable consideration to the recommendations made by the Cabinet Committee in its report to the President relative to the transportation policy of the country."

Because of government regulation "to the last detail," railroads are not free, as are competing carriers, to adjust their rates to the constantly changing needs of the industry," declared George M. Harrison, Grand President of the Brotherhood of Rail-

(Continued on page 10)

MARKET OUTLOOK THIS WEEK

Carloadings Up 3.9% Over Last Year

Loadings of revenue freight in the week ended December 1 totaled 752,150 cars, the Association of American Railroads announced on December 6. This was an increase of 101,230 cars, or 15.6%, compared with the previous week; an increase of 28,364 cars, or 3.9%, compared with the corresponding week last year; and an increase of 90,373 cars, or 13.7%, compared with the equivalent 1954 week.

Loadings of revenue freight for the week ended November 24 totaled 650,920 cars; the summary, compiled by the Car Service Division, AAR, follows:

REVENUE FREIGHT CAR LOADINGS			
For the week ended Saturday, November 24			
District	1956	1955	1954
Eastern	103,488	109,680	97,234
Alleghany	129,783	138,646	107,397
Pocahontas	52,574	52,159	42,855
Southern	111,135	118,077	107,338
Northwestern	91,665	87,710	70,087
Central Western	112,995	114,129	107,313
Southwestern	49,280	51,549	51,296
 Total Western Districts	 253,940	 253,388	 228,696
 Total All Roads	 650,920	 671,950	 583,520
 Commodities:			
Grain and grain products	41,595	42,729	44,351
Livestock	8,665	9,756	8,596
Coal	127,760	126,759	106,288
Coke	12,685	12,815	8,498
Forest Products	35,734	36,331	37,521
Ore	47,239	49,723	17,783
Merchandise l.c.l.	49,600	53,822	53,630
Miscellaneous	327,642	340,015	306,853
 November 24	 650,920	 671,950	 583,520
 November 17	 763,876	 766,216	 697,346
 November 10	 772,761	 792,042	 708,749
 November 3	 800,272	 804,261	 696,026
 October 27	 816,803	 829,648	 736,233
 Cumulative total, 47 weeks	 34,449,475	 34,243,704	 30,867,185

IN CANADA—Carloadings for the seven-day period ended November 21 totaled 83,749 cars, compared with 85,613 cars for the previous seven-day period, according to the Dominion Bureau of Statistics.

	Revenue Cars Loaded	Total Cars Rec'd from Connections
Totals for Canada:		
November 21, 1956	83,749	33,469
November 21, 1955	80,440	32,385
Cumulative Totals:		
November 21, 1956	3,984,498	1,536,257
November 21, 1955	3,646,451	1,463,406

Purchases

► *Down 3.3% in First Nine Months.*—Purchases by domestic railroads of all types of materials in first nine months of 1956 were down 3.3%, or slightly over \$60,000,000, from figure for comparable 1955 period, according to following estimates, prepared by Railway Age research department.

PURCHASES*	September	Nine Months	Nine Months
	1956	1956	1955
Equipment**	(000)	(000)	(000)
Rail	45,090	363,139	682,581
Crossties	7,900	68,050	73,559
Other Material	8,520	66,889	39,420
Total from Manufacturers	99,460	986,165	735,676
 Fuel	 \$160,970	 \$1,484,243	 \$1,531,236
 Grand Total	 32,810	 322,370	 335,535

* Subject to revision.

** Estimated value of orders.

New Equipment

FREIGHT-TRAIN CARS

► *Erie.*—Will purchase 50 specially equipped "Clejan"-type flat cars for use in piggyback service at estimated cost of \$560,000; car was described in Railway Age, Nov. 26, p. 38; purchase by the Erie followed agreement with Piggy-Back Service Corporation under which latter will solicit truckers to move their trailers by rail over the Erie between Chicago and New England points in conjunction with the New Haven (Railway Age, Nov. 5, p. 8).

► *Freight-Car Ownership Up.*—Class I railroads owned 1,385 more freight cars last October 1 than on October 1, 1955, AAR report summarized below shows; repair ratio on October 1 was 4.1%, down 0.3% from September 1 figure.

	Oct. 1, 1956	Oct. 1, 1955	Change
Ownership*	1,703,683	1,702,298	+1,385
Waiting Repair	70,416	86,298	-5,882
Repair Ratio	4.1%	5.1%	-1.0%

*Excludes railroad-owned private refrigerator cars.

PASSENGER-TRAIN CARS

► *Boston & Maine.*—Ordered three rail diesel cars (RDC-Is), Budd Company; estimated unit cost \$175,000; delivery expected next April.

SPECIAL

► *Chesapeake & Ohio.*—Announced plans to build a third experimental "Railvan" into which will go modifications suggested by service tests on two prototype units (Railway Age, May 14, p. 47); "Railvan III", after tests, might be used as prototype for initial production, starting in last half of 1957, of up to 150 similar units, which still would be considered test units.

(Continued on page 10)

MARKET OUTLOOK (continued)

OVERSEAS

► **India.**—Director, New Equipment, Railway Board, New Delhi, has requested bids for 34,462 complete wheel sets and 1,351 car underframes, according to Foreign Commerce Weekly; information on bids may be borrowed from Trade Development Division, Bureau of Foreign Commerce, U.S. Department of Commerce, Washington 25, D.C.

► **Thailand.**—Bids have been invited for six diesel rail cars, 12 trailers, and spare parts, by Office of the Stores Superintendent, State Railways of Thailand, Bangkok, according to Foreign Commerce Weekly.

Maintenance Expenditures

► **Down 2.5% in August.**—Expenditures by Class I roads for maintenance of equipment and way and structures were \$7.1 million less in August 1956 than in August 1955, according to report of ICC Bureau of Transport Economics & Statistics summarized below:

	Aug. '56	Aug. '55	% Change
Maintenance of Way & Structures	\$122,304,174	\$127,774,076	-4.3
Maintenance of Equipment	154,976,688	156,656,753	-1.1
Totals	277,280,862	284,430,829	-2.5

New Facilities

► **Boston & Maine.**—Ordered, from Union Switch & Signal—Division of Westinghouse Air Brake Company, 23 sets of type El cab signal equipment for installation on diesel-electric road-switching locomotives.

► **Canadian National.**—Its six-year main line improvement project between Armstrong, Ont., and Vancouver, and from Prince Rupert, B.C., to Jasper, will involve spreading over 9,000,000 tons of ballast, laying 400 miles of new and partly used rail and almost 1,000,000 ties, in addition to improvement of drainage and substructures and installation of modern signalling; CNR also has under development plans for modernizing its operating facilities at Moncton, Toronto and Winnipeg.

► **Chicago, Rock Island & Pacific.**—Plans for 1957 include: new car repair shop at El Reno, Okla.; completion of automatic switching facilities at Silvis, Ill., yards; CTC on Chicago-St. Paul line; micro-wave radio installation between Des Moines, Iowa, and Herington, Kan.

► **Minneapolis & St. Louis.**—Announced 1957 capital improvement budget of \$2,805,000, which includes cost of converting Marshalltown, Iowa, diesel shop into modern car shop facility, and purchase of combination pile driver-wrecker from Orton Crane Co.

► **Pennsylvania.**—Plans reconstruction, starting next year, of Delair Bridge, which spans Delaware river between Philadelphia, Pa., and Delair, N.J.; project will take three years to complete.

► **Western Pacific.**—Directors have approved 1957 road and equipment budget totaling \$5,246,920; principal projects included are relaying about 45 track miles of 78-ft and 72-ft lengths of welded rail (\$2,028,000), replacement of almost 2,300 ft of tunnel timber lining with concrete (\$834,000), and replacement of various bridges, trestles and culverts (\$272,000).

(Continued from page 8)

way and Steamship Clerks, Freight Handlers, Express and Station Employees. "The nation will gain by granting us that freedom," he said.

R. O. Hughes, president of the Order of Railway Conductors and Brakemen, said America's economic theory has been predicated on free competition, but this "does not exist today in transportation" because of restrictive governmental practices against the railroads. "We are convinced that corrective legislation to untie the hands of the railroads is called for in the field of transportation competition."

REA Seeks Rate Rise To Earn \$14 Million More

The Railway Express Agency has filed with the ICC tariffs calling for a 4% increase in express rates and charges effective December 15. The rate boost, coupled with corresponding intrastate increases, would produce additional revenues of about \$14 million a year, REA told the commission.

In support of its petition seeking approval of the tariff, the agency said it anticipated that its 1957 costs will be at least \$13.9 million greater than for 1956 as a result of increased wages and benefits, a higher unemployment insurance tax rate and higher material costs. These costs could not be absorbed, REA President A. L. Hammell stated, "without drastic curtailment in operations."

Pullman Proposes 7% Rate Increase Effective Jan. 1

The Pullman Company is seeking a 7% "across-the-board" increase in its rates for interstate and intrastate traffic to become effective the first of the year. Tariffs providing for the proposed increases have been filed with the Interstate Commerce Commission and the state commissions.

President Carroll R. Harding said the step was necessary to offset the latest upsurge in the company's wage and material costs. "As to wage costs," he said, "Pullman must grant to its employees the same pattern of wage and health and welfare benefits obtained by employees of the railroad industry in the recently negotiated wage settlements."

Rails Win Backing in Tax Repeal Bid

Transportation agencies and their customers last week urged Congress to repeal the federal excise taxes on freight charges and passenger fares.

Four railroad presidents and a vice-president of the Association of American Railroads, A. R. Seder, were on hand, as was the president of the National Industrial Traffic League—Grant Arnold, who is also general traffic manager of E. J. Lavino & Co., Philadelphia, Pa. The railroad presidents were James M. Symes of the Pennsylvania, Harry A. DeButts of the Southern, Robert S. Macfarlane of the Northern Pacific, and Patrick B. McGinnis of the Boston & Maine.

Their presentations were made to the House Ways and Means subcommittee on excise taxes which is headed by Representative Forand, Democrat of Rhode Island. They were part of the presentation of the National Conference for Repeal of Taxes on Transportation. Lead-off witness at the hearing was the conference's chairman, D. G. Ward.

Representatives of highway, waterway, air and pipe-line transportation were also on hand. Written statements submitted to the subcommittee included one from the chairman of the Federation for Railway Progress—James G. Lyne, who is also editor of *Railway Age*.

President Symes of the PRR addressed himself particularly to the 10% tax on amounts paid for for-hire passenger transportation. He said repeal of that levy would afford relief where it is most needed, reaching even the small minority of families too poor to own an automobile. As to the freight tax of 3% on amounts paid for for-hire freight transportation (4 cents per ton on coal), Mr. Symes said it is "an imposition on the kind of transportation the nation needs most and should encourage most—common carrier transportation."

Along the same line, President DeButts of the Southern said the taxes were a penalty on "legitimate and essential activities" of the for-hire carriers. He estimated that the levies had been responsible for diversion from the Southern to private carriage of traffic yielding gross revenues of "at least" \$25 million a year.

President Macfarlane of the NP stressed what he called the "discriminatory and injurious effects" of the taxes on long-haul shippers and on domestic shippers competing with Canadian shippers whose transport costs included no tax. "To Chicago," he said, "the western shipper pays a tax of \$24.21 on a carload of lumber; \$24.36 on a carload of wood-pulp, and \$21.30 on a carload of apples. The Canadian shipper pays no tax. The obvious discrimination resulting from the application of this tax warrants its repeal."

President McGinnis of the B&M pointed out that the 3% tax on for-hire charges for the movement of low-rated commodities is often the margin which diverts the business to private carriage. He cited traffic losses the B&M had suffered on that basis. He also asserted that many New York brokers "make a living telling shippers how to avoid the freight tax."

President Arnold of the NIT League recalled that the league has been urging repeal of the taxes for 10 years. He said the freight tax was "objectionable" because it is a tax which is compounded by reassess-

ment on repeated movements of the same commodity; it taxes a necessity, not a luxury; it imposes an undue burden on the long-haul shipper; it discriminates against for-hire transportation; and it increases freight rates.

Mr. Ward assailed the taxes as discriminatory, and he also expressed the view that repeal would not necessarily mean a heavy loss of revenue. In his opinion, the revenue loss would be offset to a considerable extent by higher income taxes resulting from the greater volume of traffic generated and from elimination of many tax-deductible expenses.

Chairman Lyne of FRP, dealing with the passenger tax, called it "wrong-way discrimination" that "operates against the fellow with least ability to pay." He noted that the levy is paid by the fellow who rides the train or bus while there is no matching taxation "on the big automobile with a chauffeur at the wheel." The freight tax also penalizes the "little fellow," Mr. Lyne said, explaining that the big shipper can convert to private carriage because he has "the money and credit to buy all the trucks or barges he wants."



Transport Specialist Promoted to Major General

E.C.R. Lasher (left), executive director of the recently organized Military Traffic Management Agency, has been promoted from brigadier general to major general, United States Army. At the right is Major General Paul F. Yount, Army Chief of Transportation. Others in the photograph, all members of Gen. Lasher's all-service agency

staff, are (left to right), Air Force Col. John Kilgore, director of services; Army Col. Ray Knox, director of traffic; and Navy Capt. Willard C. Johnson, director of policy and plans. Gen. Lasher's deputy executive director, Army Col. George Barnes, was not present when the photograph was taken.

Atom Locomotive May Be Built in Germany

Operating costs, government says, would compare favorably with more conventional equipment—ASME meeting told it is 'questionable' whether atom locomotive can be justified at present on U.S. commercial railroads

Reports from the German government indicate that construction of an eight-axle atom-powered locomotive weighing about 175 tons is being considered in that country.

From an economic standpoint, it was said, the new unit would compete favorably with more conventional equipment—running costs being somewhat lower than those of ordinary steam motive power, yet somewhat higher than electric.

The German locomotive would be adapted specifically for use on European railway systems. It would be powered by a gas-cooled atomic reactor and would develop approximately 5,916 hp. Initial cost would be in the neighborhood of \$500,000.

ASME Topic, Too—Meanwhile, Bruce C. Gunnell, president of the Bush Hill Development Corporation, and a former chief mechanical engineer of the Southern, told the recent annual meeting of the American Society of Mechanical Engineers that it is questionable whether an atomic-powered locomotive can be justified now on U.S. commercial railroads.

Such locomotives, he continued, would have an immediate value in the military service, as well as in certain foreign countries where present-day fuels are not plentiful.

Tracing atomic locomotive research during the past ten years, Mr. Gunnell cited development costs, safety factors, fuel costs and shortage of liability insurance coverage as problems to be solved before

American railroads can begin a changeover in motive power.

For the military service, he said, "a 3,000-hp unit may be a little large, but this can probably be reduced without too much difficulty." The possibility of military locomotives operating in remote fields on a refueling basis of once every six months "recommends the military as the first and most likely place for such a unit to be used." (Railway Age, May 30, 1955, p. 9).

Cost of First Unit—According to Mr. Gunnell, development cost of the first atomic locomotive would probably be at least \$20 million. The cost per 3,000 hp unit, after mass production manufacturing is started, would be about \$1 million each for the first 500 locomotives.

As for maintenance, Mr. Gunnell said that a conservative current cost estimate for atomic locomotives per mile is \$0.80 or \$115,200 per year per 3,000-hp unit, or approximately double that of an equivalent diesel unit.

He said the danger of subjecting railroad personnel to radioactivity can be handled satisfactorily with present know-how and special training. He added, however, that the collision of two atomic locomotives, which would stop the control rods of each, causing the reactors to melt down and run out on the ground, poses the major safety obstacle to atomic locomotive use. Such an occurrence would necessitate blocking off the wreck area for special anti-

contamination personnel and equipment.

RR Men Alerted—Mr. Gunnell pointed to the atomic submarine "Nautilus" and the "package atomic heat" unit, now under development for U.S. Army Engineers, as important reactor advances for railroad men to watch. The "Nautilus" proves that a reactor can be used to furnish power to drive a mobile unit, while the "package atomic heat" unit is being designed to be transported to remote locations, where it will furnish heat and power, he said.

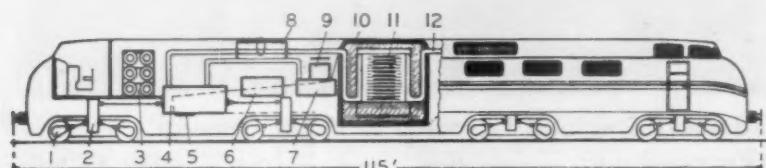
Present estimated supplies of conventional fuel for use in present-day power plants, Mr. Gunnell stated, will last another hundred years. From a world viewpoint, however, fuel shortage in many parts of other countries gives atomic-powered locomotives an economic advantage over present types. It is time, he concluded, for American engineers to lead the world in developing a workable locomotive for places where fuel economy justifies its use.

Boshell Sees CTC Savings Topping Dieselizeation's

If railroads had allocated as much money for centralized traffic control as they actually spent switching from steam to diesel power they might have netted even more than the "terrific" savings realized on the motive power changeover.

With that statement to the New York Society of Security Analysts on November 30, E.O. Boshell, chairman of the Westinghouse Air Brake Company, predicted rising expenditures for CTC in the years ahead. Noting that the diesel switchover was the railroads' "salvation," Mr. Boshell stated that heretofore motive power changes have competed with other improvements for funds in railroad budgets. With dieselizeation approaching completion, he said, appropriations now may be diverted to such capital projects as CTC and yard mechanization.

Mr. Boshell also predicted good business for other Westinghouse divisions, commenting that South American roads, particularly those in Brazil and Argentina, are "very anxious" to introduce modern air braking on their equipment.



GERMANY'S ATOMIC LOCOMOTIVE, sketched by an atomic expert of the Federal German Railways, would be about 115 ft long. Its various components, indicated by numbers in the sketch, would include (1) driving axle; (2) commutator and power drive transmission; (3) helium bottle bat-

tery; (4) low-pressure turbine; (5) support for reactor bridge; (6) high- and low-pressure compressor; (7) high-pressure turbine; (8) cooler with ventilator; (9) boiler (heated by helium current); (10) reactor casing; (11) uranium bars; and (12) helium transmission.

October Net Was Up \$13 Million

It was \$103 million, compared with \$90 million in October 1955—Ten months' net was off \$38 million

Class I railroads in October had estimated net income, after interest and rentals, of \$103 million, according to the Bureau of Railway Economics of the Association of American Railroads. That was an increase of \$13 million above the \$90 million reported for October 1955.

For this year's first 10 months, estimated net income was \$711 million, down \$38 million from the \$749 million reported for the first 10 months of 1955.

October's net railway operating

income, before interest and rentals, was \$121,713,784, off \$10.8 million from the October 1955 figure, \$110,881,511. The 10 months' net railway operating income was \$894,770,856, off \$52.4 million from the comparable figure, \$947,187,510, reported for the first 10 months of 1955.

Thirteen Class I roads failed to earn interest and rentals in this year's first 10 months. The rate of return for the 12 months ended with October averaged 3.99%, compared with 4.31% for the previous 12 months.

	Month of October	
	1956	1955
Total operating revenues	\$ 963,199,291	\$ 907,746,836
Total operating expenses	699,353,236	670,789,156
Operating ratio—per cent	72.61	73.90
Taxes	122,545,209	103,034,547
Net railway operating income (Earnings before charges)	121,713,784	110,881,511
Net income, after charges (estimated)	103,000,000	90,000,000
Ten Months ended October		
Total operating revenues	\$8,792,282,647	\$8,374,496,681
Total operating expenses	6,731,852,843	6,290,275,280
Operating ratio—per cent	76.57	75.11
Taxes	954,357,508	923,822,927
Net railway operating income (Earnings before charges)	894,770,856	947,187,510
Net income, after charges (estimated)	711,000,000	749,000,000

BLE Strike Ties up SP&S

Service was halted on the Spokane, Portland & Seattle, Oregon Trunk and Oregon Electric last week when the Brotherhood of Locomotive Engineers struck in a dispute over a guaranteed "extra board" contract.

President Eisenhower appointed an emergency board in the dispute December 5.

Transcontinental runs on the Great

Northern and Northern Pacific were also affected when picket lines formed at NP's Pasco, Wash., yard and at Spokane.

BLE yard and road engineers asked the SP&S for: (1) a guarantee of earnings for extra engineers for days not worked; (2) overtime pay for engineers who operate radio-equipped trains in both road

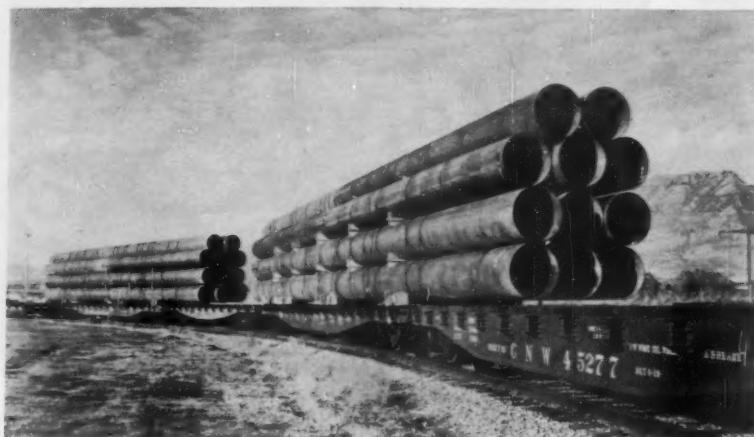
and yard service; and (3) extra pay for engineers who must change engines during a tour of duty.

Of the three demands the SP&S considered only the third "negotiable," a spokesman said.

A few railroads have "extra board" guarantees for engineers, usually where switching and connecting operations must be maintained at isolated points. On September 8, the Ogden Union agreed to an "extra board" wage guarantee with the BLE. The settlement came after a 6½-hour strike and provided full pay for a 6-day work week whether the extra engineers worked or not.

Through passengers on the NP and GN were being rerouted to Seattle and thence by connecting trains to Portland.

GN supervisory personnel maintained limited freight service over the inland gateway route between Vancouver, Wash., and Bend, Ore.



How to Haul 80-ft Pipe on 53½-ft Flat Cars

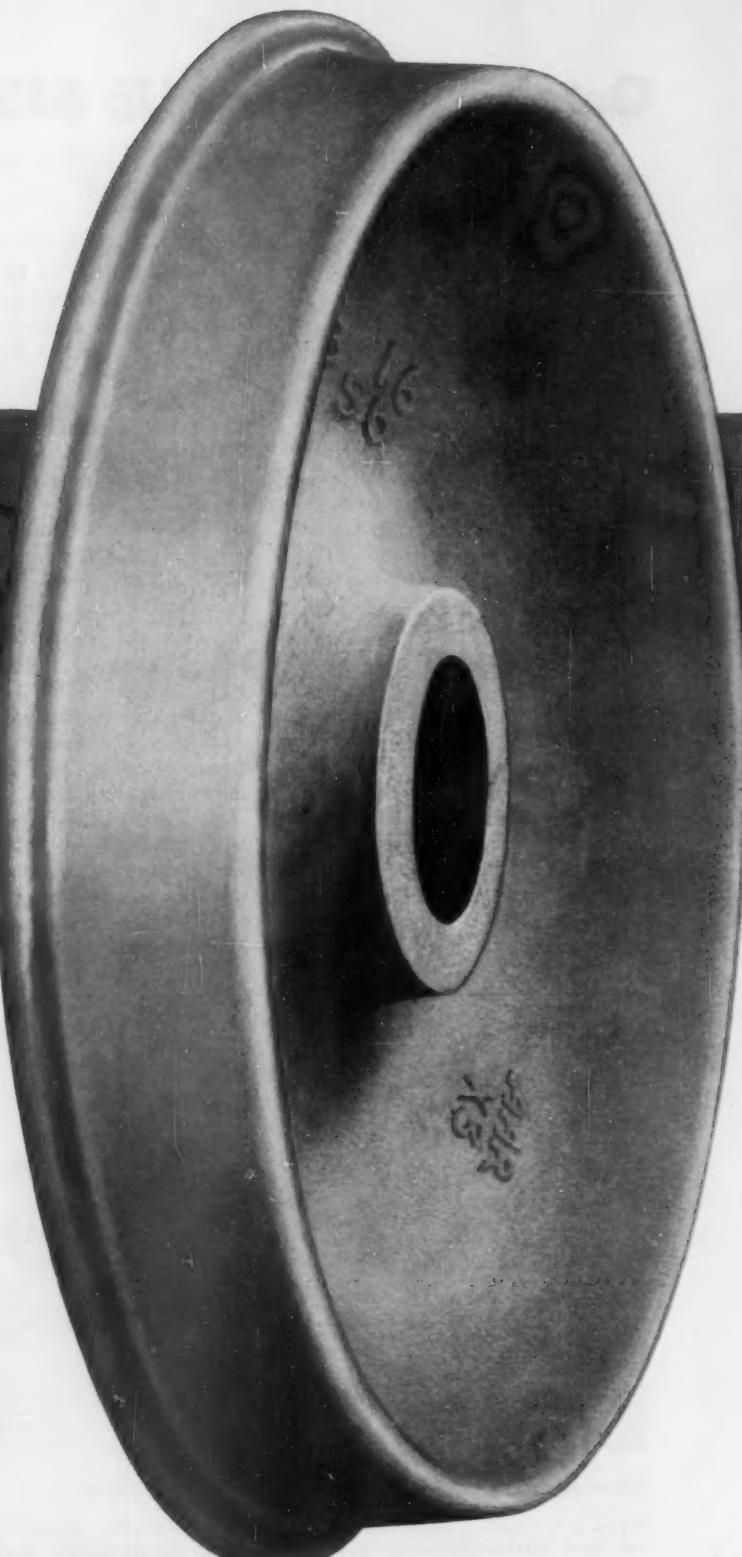
When U.S. Steel's Consolidated Western Steel Division recently put into operation a new welding machine which seams together two 40-ft lengths of heavy, large diameter steel gas line pipe, it became necessary to devise a method of carrying the 80-ft sections of pipe so that turns and switchbacks in western mountains could be negotiated with no trouble. Load specialists from three western railroads — the

Denver & Rio Grande Western, the Union Pacific and the Southern Pacific — joined engineers from the Pacific Gas & Electric Co. and Consolidated Western and came up with the solution: Five flat cars are used to carry two loads of pipe stacked four sections high. The second and fourth cars carry loads, while the first, third and fifth cars act as overlap cars in the train's consist.

Third ICC Check Finds No Gain in Truck Defects

The third nationwide road check conducted by the Bureau of Motor Carriers of the Interstate Commerce Commission turned up vehicle defects or driver deficiencies on 89.8% of the trucks involved in the check.

The commission's notice summarizing results of the check said the bureau is now making plans under which commission inspectors would order out of service any vehicle "found to be in such condition (Continued on page 16)



1953
to
1956

Griffin EQS is placed in service under all types of cars and performance is so outstanding that the railroads move to adopt it as standard.



GRIFFIN EQS 

ELECTRIC QUALITY STEEL

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Plants strategically located to serve all railroads



1952

Griffin announces an entirely new concept of producing freight car wheels... a steel wheel, pressure-poured in precision graphite molds to fine tolerances.

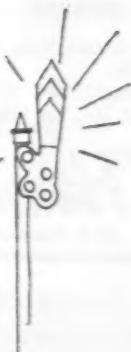


1957

**Griffin EQS...now approved as
AAR STANDARD**

Effective March 1, 1957

*Give the "green" to **GRIFFIN** and watch your costs go down!*



(Continued from page 13)
that it would be hazardous for it to continue operating." Thus far the inspectors have merely noted the defects or deficiencies.

The 89.8% figure compared with a finding of defects and deficiencies on 89.9% of the vehicles inspected in the previous check (Railway Age, Oct. 8, p. 11). The check out of

which the present report came was made the week ended October 13.

It covered 8,098 vehicles and found 7,271 of them with one or more defects or deficiencies. The latter included 3,144 violations of requirements for keeping drivers' logs. There were 526 defects in service brakes on power units and 242 such defects on trailers.

political columnist for the Toledo, Ohio, Times.

The BLE monthly magazine, "Locomotive Engineers Journal," will continue to be edited by Paul M. Smith.

GM 'Frigifrater' Undergoes 90-Day PFE Test

Pacific Fruit Express has placed the experimental "Frigifrater" refrigerator car in service for a 90-day test (Railway Age, Aug. 22, 1955, p. 36-40). The car will see transcontinental service as part of PFE's mechanical reefer car fleet.

"Frigifrater" was built by General Motors' Electro-Motive Division and was first exhibited at GM's 1955 Powerama in Chicago. The entire car body is detachable from the underframe for transfer to a boat or other carrier.

Major railroads are to test the car after PFE.

Progressive RR's Keep Truckers on Toes

Progressive developments among railroads and water carriers leave no room for trucker complacency in competition for freight business, Interstate Commerce Commissioner L.K. Walrath told the Florida Trucking Association at Miami Beach, recently.

He lauded railroad and water carriers for "spending millions of dollars in research, not only in the field of electronics, radar and scientific developments to speed up operations generally, but also in the engineering of interchangeable modern freight conveyors and containers.

"The concept of piggyback as we knew it in its infancy a few years

ago has changed drastically. The roll-on rail and trailer equipment has rejuvenated coastal shipping. Substitute motor service for rail is expanding and helping solve rail's former inability to compete with truckers for LCL shipments.

"Experimental trailer bodies have been developed which lift on and off motor chassis, rail flat car or ship's dock—easily interchangeable and with no break-bulk."

Mr. Walrath went on to say that most such innovations have been conducted with "captive" motor carriers, but said "few railroads would reject a mutually fair opportunity to talk business with truckers if it could mean a feasible operation of value to both."

BLE to Publish New Paper Starting in January

Plans for a new national labor newspaper to be called "Locomotive Engineer" and which will be circulated among the 75,000 members of the Brotherhood of Locomotive Engineers, were announced recently by Guy L. Brown, grand chief engineer of the union.

First issue of the four-page, tabloid-size newspaper will be published about January 1. Initially, it will appear bi-weekly. "The newspaper will give the nation's oldest rail labor organization a new voice," Mr. Brown said, "and will provide better communication between our members and the BLE grand office."

Editor of the new publication will be Bill Griffith, who also will handle public relations at the union's international headquarters in Cleveland. Mr. Griffith, most recently with the Goodyear Tire & Rubber Co.'s public relations staff in Akron, formerly was Sunday editor of the Youngstown, Ohio, Vindicator, and

Financial

Minneapolis & St. Louis.—Correction.—It was reported erroneously in Railway Age, Nov. 26, p. 15, that this road had applied for ICC authority to issue \$2,640,000 of equipment trust certificates to finance acquisition of 490 box cars. The applicant in that case (Finance Docket No. 19523) was the Minneapolis, St. Paul & Sault Ste. Marie. The M&StL has no equipment trust application pending at the commission, and is not considering purchase of any cars at this time.

Dividends Declared

BANGOR & AROOSTOOK.—50c, quarterly, and 60c, extra year-end, both payable December 31 to holders of record December 10.

BEECH CREEK.—50c, quarterly, payable January 1 to holders of record December 15.

CHICAGO, SOUTH SHORE & SOUTH BEND.—15c, quarterly, payable December 15 to holders of record December 5.

DELAWARE & HUDSON.—50c, quarterly, increased, payable December 28 to holders of record December 10.

DENVER & RIO GRANDE WESTERN.—62½c, payable December 17 to holders of record December 7.

ERIE & PITTSBURGH.—Guaranteed, 87½c, quarterly, payable December 10 to holders of record November 30.

NEW YORK & HARLEM.—\$2.50, semiannual, payable January 1 to holders of record December 15.

READING.—4% second preferred, 50c, quarterly, payable January 10 to holders of record December 20.

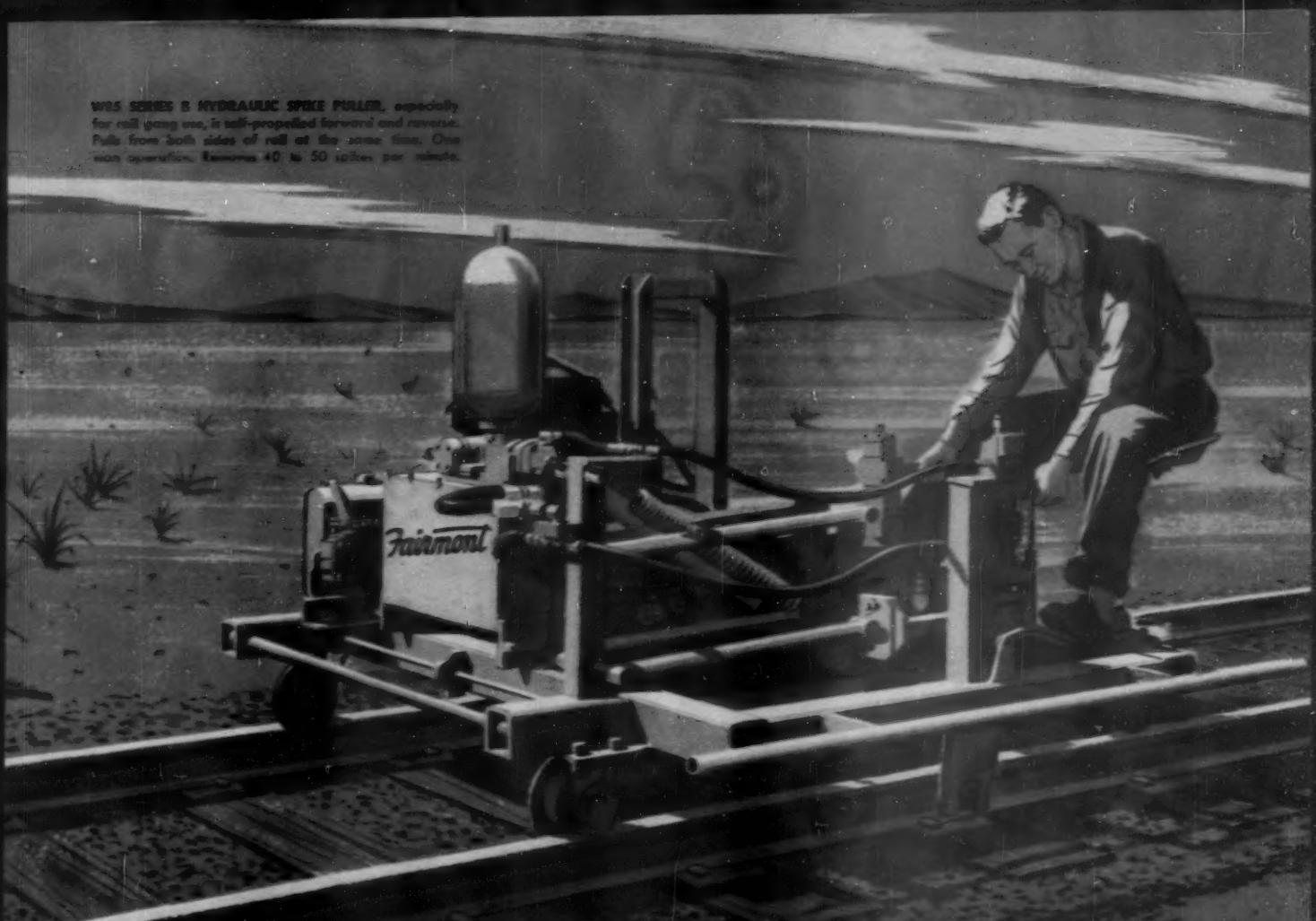
SEABOARD AIR LINE.—62½c, quarterly, payable December 27 to holders of record December 17.

UNION PACIFIC.—30c, quarterly, 40c, extra, both payable January 2 to holders of record December 10.

Heart of the LOOP CHICAGO
300 modern newly decorated sleeping rooms from \$4 single
11 meeting rooms accommodating 10 to 800 persons
For Reservations Write Samuel Leeds, Mgr. Dir., Box 100
NEW Hamilton Hotel 20 S. Dearborn St., Chicago

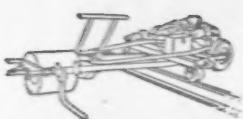
NEWLY DECORATED
Advance reservations required

W85 SERIES B HYDRAULIC SPIKE FULLER, especially for rail gang use, is self-propelled forward and reverse. Pulls from both sides of rail at the same time. One man operation. Removes 40 to 50 spikes per minute.



When you think of
RAIL RENEWAL

...think first of **Fairmont**



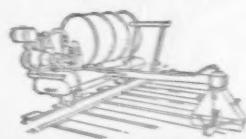
W88 SERIES B TIE BRUSH
cleans tie areas under and adjacent to the tie plates. Hydrostatically propelled. It is ideal for gang use ahead of cutters and for cleaning before applying plastic base to tie plates.



W89 SERIES A CRIB REDUCER
prevents crib from fouling the teeth of cutter. Digging drive includes fluid coupling, multiple V belts and speed reducer. Adjustable counterbalance and 2-way drive. 1-man operation.



W79 SERIES A SPIKE SETTER CARRIAGE makes spike setting unusually easy and economical. Features include a convenient spike hopper; perfectly placed working seat; double-flanged rail wheel; two-rail, two-way operation.



W71 SERIES A TIE SPRAYER
applies protective coating to newly edzed surfaces quickly and thoroughly. Requires only one-man operation. Automatic spray. Average consumption only 25 gallons of preservative per mile of single rail.

When it's time for rail renewal, make it a point to think first of Fairmont. You'll find that Fairmont manufactures a time-and-money saving tool for every phase of the job. Individually, these products represent the most advanced design and construction available in their specific fields—and together, they provide the perfect answer to any and all rail renewal problems. We'll be delighted to send you detailed information on any Fairmont products in which you might be interested. Write or call Fairmont first!

FAIRMONT RAILWAY MOTORS, INC., FAIRMONT, MINN.

MANUFACTURERS OF INSPECTION, SECTION AND GANG CARS, HY-RAIL CARS, MOTOR CAR ENGINES, PUSH CARS AND TRAILERS, WHEELS, AXLES AND BEARINGS, BALLAST MAINTENANCE CARS, DERRICK CARS, OIL SPRAY CARS, GROUTING OUTRITES, TIE RENEWAL EQUIPMENT, RAIL RENEWAL EQUIPMENT, WEED CONTROL EQUIPMENT.

Rolling Steel Doors

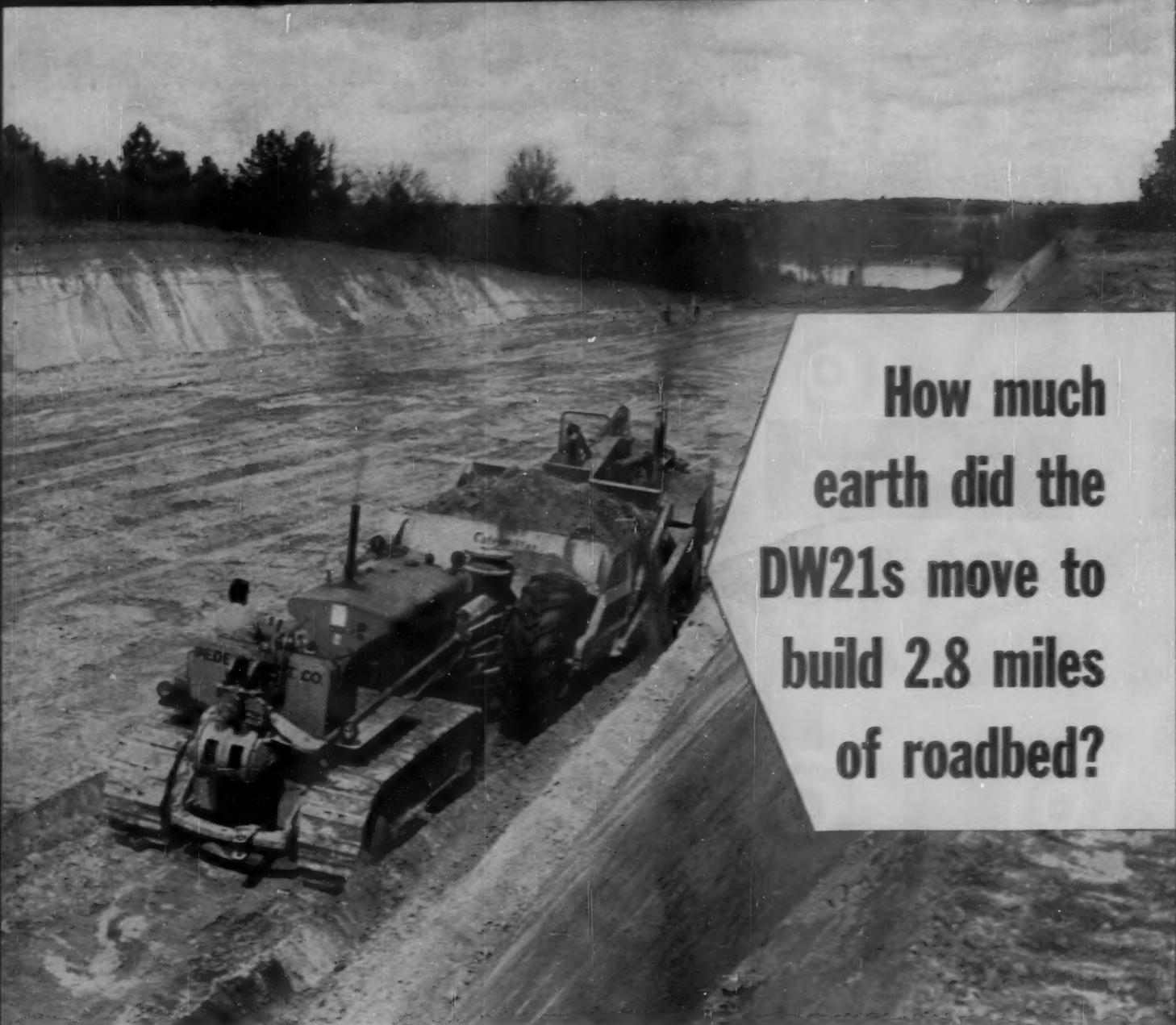
Save Space Under Restricted Operating Conditions!



ROLLING STEEL DOORS, SHUTTERS AND GRILLES TO MEET EVERY REQUIREMENT

Three Mahon Power Operated Rolling Steel Doors, 38'-0" x 14'-0", at the entrance to an enclosed subterranean shipping dock off a vehicular tunnel under "Northland", Detroit, Michigan. Owners: Northland Shopping Center, Inc. Architects: Victor Green & Associates. General Contractors: Bryant & Detwiler.

M A H O N



How much earth did the DW21s move to build 2.8 miles of roadbed?

To build 2.8 miles of roadbed for the Charleston & Western Carolina Railway Co., H. L. Peden Construction Co. had to move 375,000 yards. To do this big job quickly and efficiently, the company used two CAT® DW21s. Working with these big Caterpillar rigs were two DW10s, a DS for push-loading and a No. 12 Motor Grader.

The job, which reduced curvature and evened grades, required cuts as deep as 51 feet. The DW21s and their matched scrapers made a 3000-foot round trip every six minutes with an average load of 20 yards. Their speed averaged 12 MPH including loading!

And now the productivity of these big yellow units has been increased! The new DW21 is teamed with the new LOWBOWL Scrapers to give you faster loading time and bigger loads. This giant scraper now has a capacity of 18 yards struck, 25 yards heaped!

These new scrapers feature an efficient new concept in design. The bowl has been widened and lengthened, yet the bowl depth has been lowered. In that way horse-

power can be utilized more efficiently. Material is loaded with less resistance right to the end of the loading cycle. Increased high apron lift provides ejection of any material and increased ground clearance enables the scraper to work even under extremely "soft" conditions.

You will find that new models have been created and new refinements added in the entire Caterpillar off-track line. These machines have been designed to increase production and lower costs on your jobs.

So it's more important than ever to see your Caterpillar Dealer. Call him today. Ask for a demonstration—on your job.

Caterpillar Tractor Co., Peoria, Illinois, U.S.A.

CATERPILLAR®

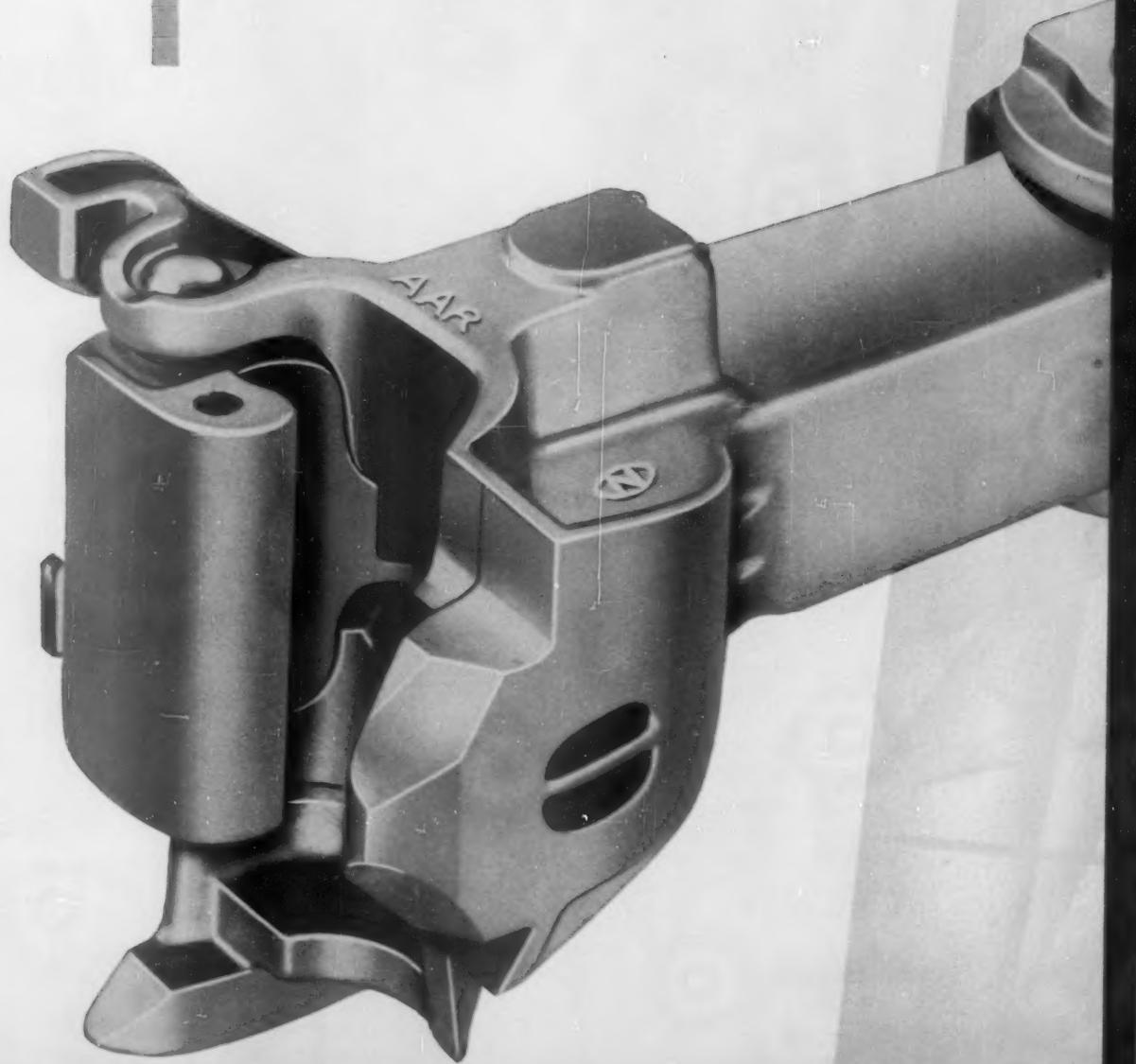
Caterpillar and Cat are Registered Trademarks of Caterpillar Tractor Co.

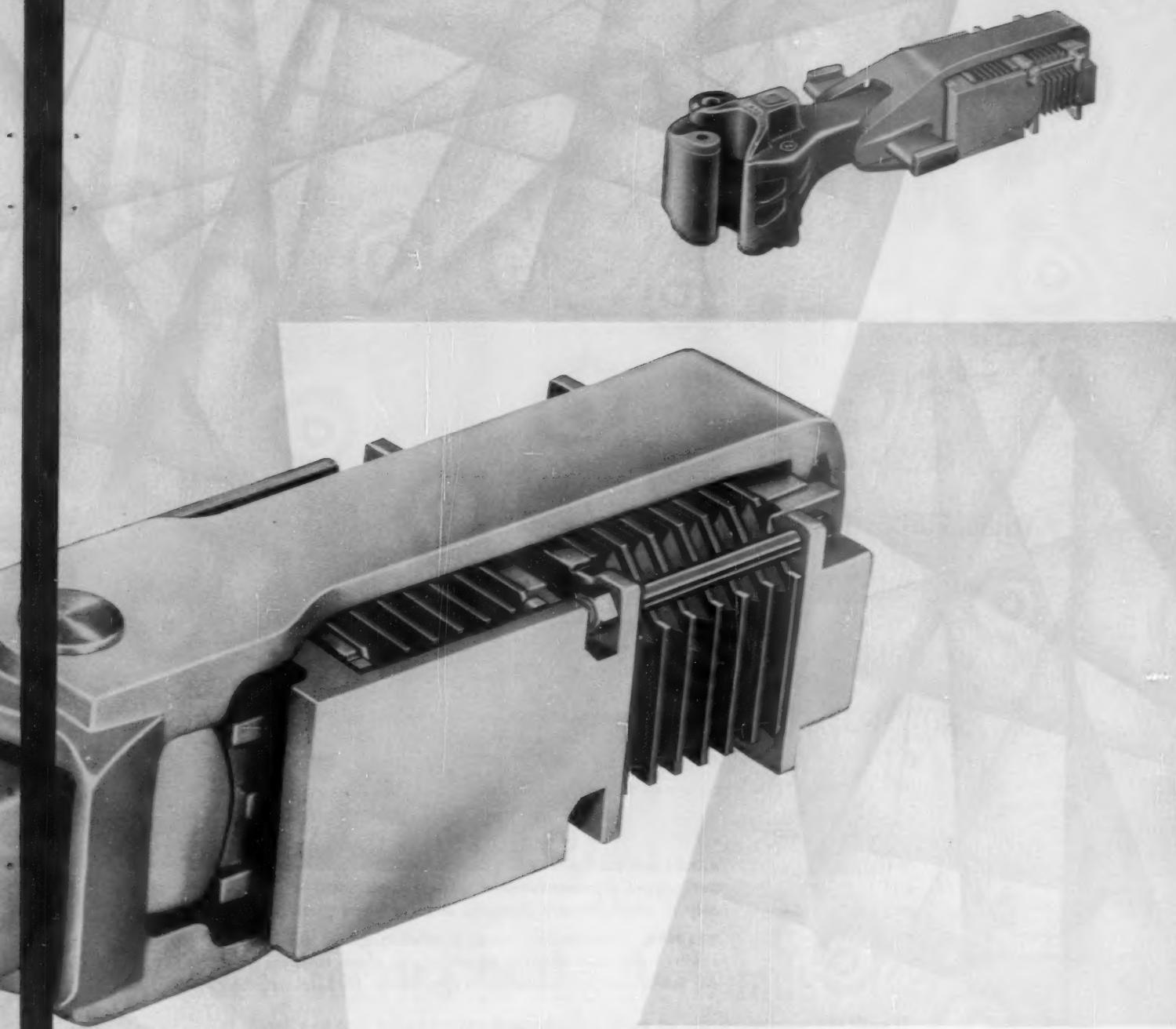
NAME THE DATE...
YOUR DEALER
WILL DEMONSTRATE

*There's Improved Railroading with
National Specialties*

REASON:

National's MF-400 Rubber-Cushioned Draft Gears have a rated capacity of 42,500 foot pounds, *plus* a reserve capacity 54 per cent greater than the rated — *65,500 foot-pounds!* This reserve capacity guarantees the original rated capacity at the original force level over a longer period of time than possible with gears that have definite solid points at their rated travel.





NATIONAL'S I.Q. SLIDE GRAPH
(Available upon request)

Shows total work done in foot-pounds during impacts between various cars at various speeds! Shows how much of this work National Draft Gears account for at various force levels! Points up need for high capacity in draft gears!

NATIONAL MADE OF
MALEABLE
STEEL **CASTINGS COMPANY**
Established 1868

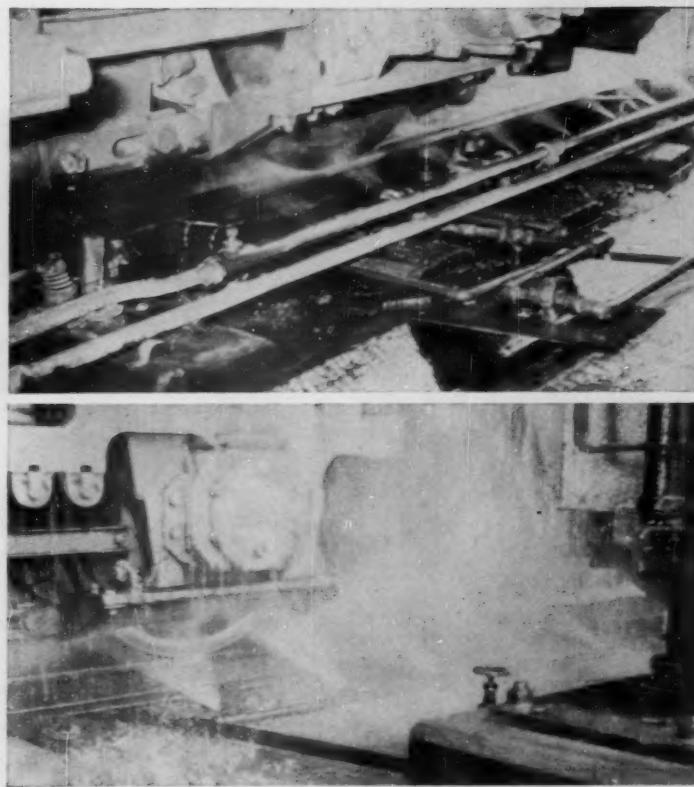
Cleveland 6, Ohio

COUPLERS
YOKES
DRAFT GEARS
FREIGHT TRUCKS
SNUBBER PACKAGES
JOURNAL BOXES



Save Money

Clean diesel
wheels and trucks
with automatic
Oakite "track-trip"
spray-washing



Oakite automatic "track-trip" wheel cleaning set-up saves money. It prevents solution and rinse water waste. Top picture, cleaning. Bottom picture, rinsing.

YOU ARE LOOKING at a set-up for cleaning and rinsing diesel wheels and trucks. It was designed by Oakite for a big Western Railroad. These pictures were taken at that yard.

THIS ROAD wanted to eliminate costly, time-consuming manual cleaning. They were looking for some simple, inexpensive mechanical method ... one they could build themselves in their own yard.

HERE'S HOW IT WORKS. Pressure, transferred from wheel flange to track tripper, depresses valves for spray cleaning. Solution spray responds only to wheel pressure. Spraying stops as wheel pressure diminishes.

RESULTS. Considerable savings in solution upkeep and less waste of rinsing water since spraying occurs only as wheels enter spraying area. No time wasted for manual valve adjustments. No hand scrubbing.

If you'd like more information on washing diesel wheels and trucks just drop us a line. We'll be glad to send you complete details, drawings.

Oakite Products Inc., 46 Rector Street, New York 6, New York

OAKITE

RAILWAY DIVISION



This is the twelfth in a series of advertisements about the people of Standard.

He Sells Service to the Railroads ... and gives trouble to the ducks

This is William B. Reed.

"Bill" likes waiting in a blind to get his marksman's share of ducks, and enjoys most other outdoor activities. These days, with his son at the University of Wisconsin, he likes traveling to Madison.

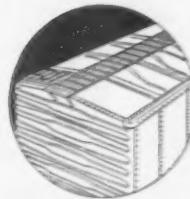
"Bill" also likes selling Standard products to the railroads in the Twin Cities and to the east of Chicago. His territory is big and so is his job, for

he sells by giving service to Standard customers.

"Bill" Reed is the kind of salesman you have learned to expect as your Standard representative. His mission is helping you. And, whether your order is for one car or hundreds—for new car parts or replacement on existing equipment—you can depend on Standard to get cars on the road, paying their way.



Improved Dreadnaught Ends



Diagonal Panel Roofs

9 out of 10 house cars
now in operation on
America's railroads are
equipped with Standard
Ends and Roofs.



Standard RAILWAY EQUIPMENT MANUFACTURING COMPANY

General Office: 4527 Columbia Ave., Hammond, Ind. • New York • Chicago • St. Paul • San Francisco
Standard Railway Equipment Manufacturing Company, (Canada) Ltd. Sun Life Building, Montreal



for Fast—Accurate
RESURFACING
... use these 3 **NORDBERG**
"Mechanical Muscles"[®]

HERE is another Nordberg Track Maintenance "threesome" that will save time and money and increase the quality of your resurfacing operations. Each of these Nordberg "Mechanical Muscles" is ruggedly built to do a specific job . . . and do it better, faster and at lower cost. Proved cost savings will soon write off your original equipment investment on each of these accurate track machines.

These three machines . . . the *Tamping Power Jack*, *Gang Tamper* and *Trakliner* . . . are typical of the more than twenty-five Nordberg "Mechanical Muscles" that have become the standard for efficient maintenance operations on the nation's railroads.

To stretch *your* maintenance dollars, it will pay you to make sure you have all the facts about the full line of modern, money-saving Nordberg track maintenance machinery. Write for literature on any or all of these Nordberg "Mechanical Muscles".

NORDBERG "Mechanical Muscles"

ADZING MACHINE • TIE DRILL • RAIL DRILL • RAIL GRINDERS • CRIBEX[®] • BALLAST ROUTER • TRACKSHIFTER •
BALLASTEX[®] • SCREENEX[®] • GANG TAMPER • POWER JACK • HYDRAULIC and MECHANICAL SPIKE PULLERS
• DSL[®] YARD CLEANER • TRAKLINER • SPIKE HAMMER • POWER WRENCH • TIE-KAT[®] • TAMPING POWER JACK •
DUN-RITE[®] GAGING MACHINE and BRONCO • TRACK SURFACING DEVICE • GANDY[®]-TIE PULLER and INSERTER

NORDBERG MFG. CO.
MILWAUKEE
WISCONSIN

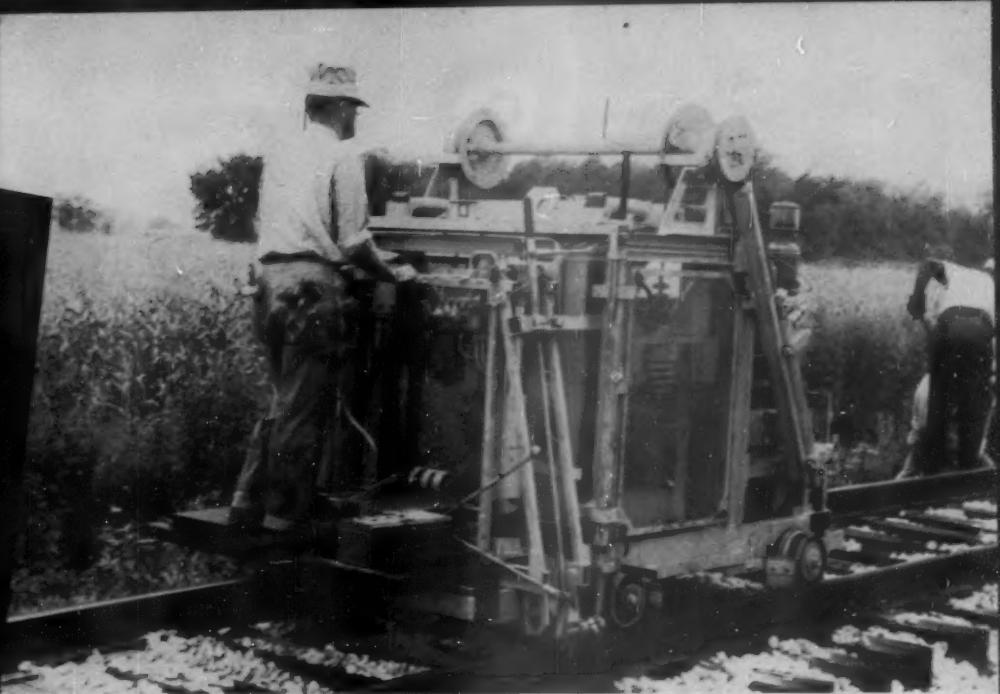


NORDBERG

Serving the Nation's Railroads for over 25 years

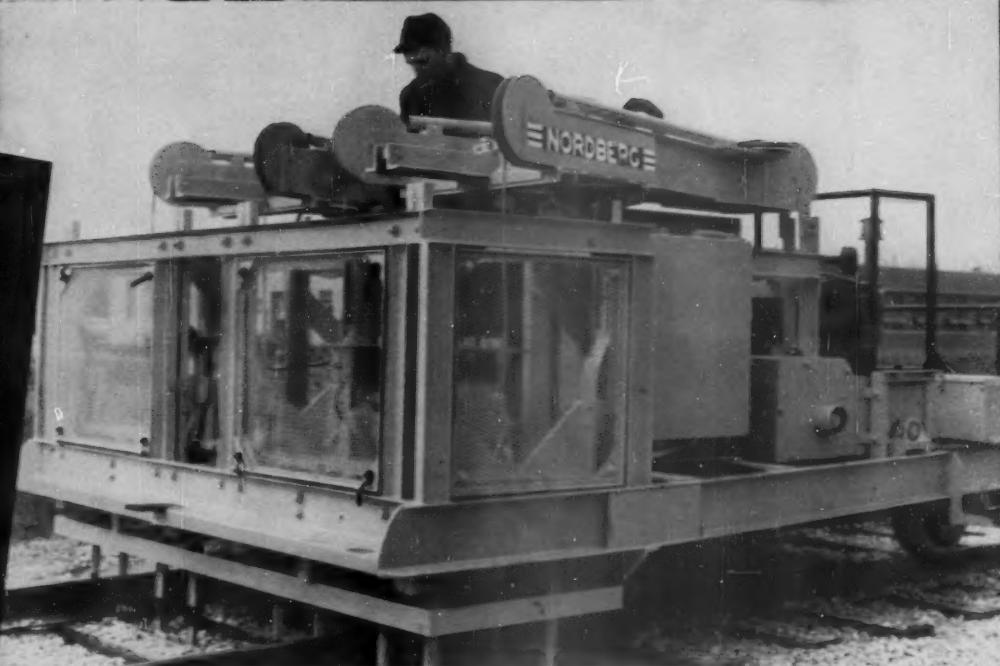
1 TAMPING POWER JACK

This new one-man machine combines many features of the Nordberg Power Jack and Gang Tamper. Designed for use ahead of gang tamping equipment, the self-propelled Tamping Power Jack raises track quickly, and solidly tamps ties to hold raise.



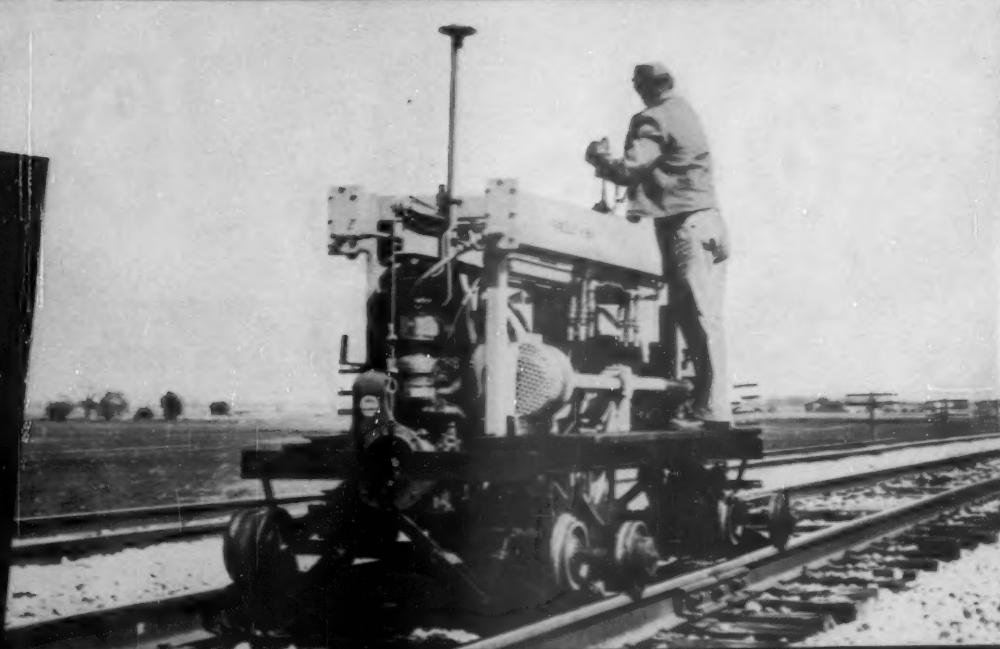
2 AUTOMATIC GANG TAMPER

Sixteen point tamping for raising or spot surfacing, this one-man machine tamps by impact, compression and vibration, with split tamping heads that tamp under one rail or both, as desired. Assures uniform quality tamping, of every tie, every time, in any ballast. Has selective automatic or manual tamping cycle.



3 NORDBERG TRAKLINER

The track lining machine with two point rail contact for extremely accurate, kink-free line. Operated by one man and self-propelled, the Trakliner is faster and more accurate than any other lining methods.



Famous *Bendix Radio* Firsts In Railroad Communications

1st

- ★ 2-Way VHF-FM Radio equipment expressly designed and engineered for railroad use
- ★ Single package communications unit designed for railroad service
- ★ Complete CRC (Centralized Radio Control) System for main line radio operation
- ★ 64-Volt communications unit for railroad radio that eliminates costly converters
- ★ Lightweight, two-channel, 1-watt portable communications unit

... and now another first

New AAR Standard dual-vibrator 64-volt single package communications unit

Here's the latest advance by Bendix* in the field of railroad radio. It's the brand new 1R54-C 64-Volt Dual-Vibrator Communications Unit.

And like all Bendix railroad radio equipment it exceeds AAR specifications for performance and operation. It combines receiver, transmitter and dual-vibrator power supply in one compact case. It operates directly from the locomotive 64 VDC battery supply and eliminates the use of costly converters. Railroad engineered from chassis to cabinet, it features automatic change-



over to stand-by vibrator; new transistorized audio circuit that doubles audio output while keeping power drain at a minimum; and unitized plug-in chassis construction for easy servicing.

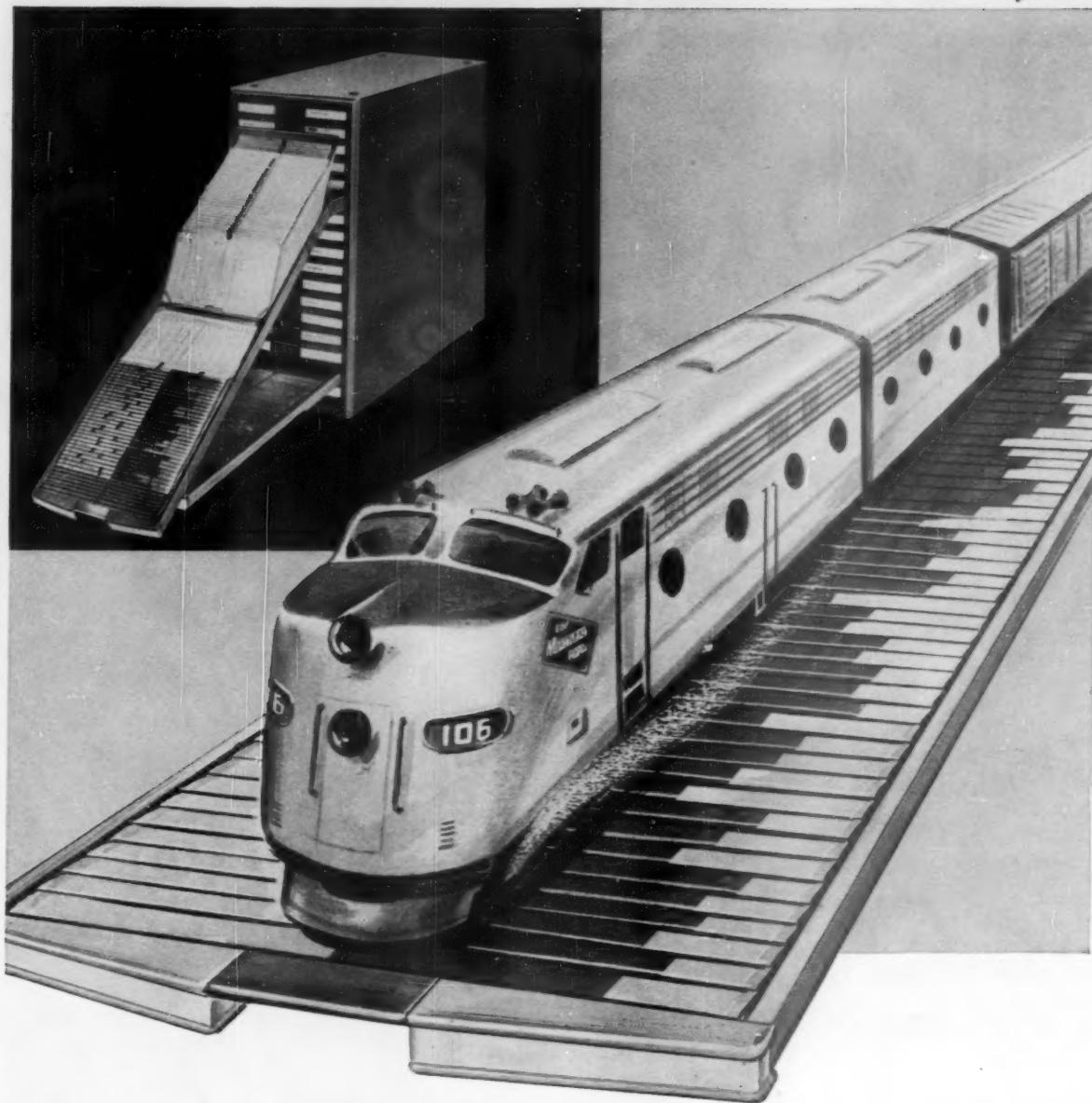
The 1R54-C represents another milestone in the progress of railroad radio—pioneered and developed by Bendix Radio. For complete details and specifications about this great new railroad communications unit, write Bendix Radio, Railroad Sales, Baltimore 4, Maryland.

*Reg. U.S. Pat. Off.

Bendix Radio

DIVISION OF BENDIX AVIATION CORPORATION

Chicago Sales Office: 228 No. La Salle St., Chicago 1, Ill. • West Coast Sales: 10500 Magnolia Blvd., N. Hollywood, Calif.
Export Sales & Service: Bendix International Division, 205 E. 42nd St., N.Y. 17, N.Y., U.S.A. • Canadian Distributor: Aviation Electric, Ltd., 200 Laurentian Blvd., Montreal, Quebec



KARDEX® Visible Keeps the Milwaukee's Inventory "On the Right Track"!

The Chicago, Milwaukee, St. Paul & Pacific reports substantially more economical operation as a result of installing KARDEX Visible... has found it to be the backbone of efficient inventory control.

The KARDEX Visible records give *complete control*... make answers to questions available *at a glance* from up-to-the-minute information. Automatically signaled*, thousands of needed parts are now constantly under control... preventing delays due to shortages and "rush" buying... preventing costly

overstocking and obsolescence. Result? Administrative time is saved, stocks are balanced and overall costs are reduced.

Get full particulars on the big role KARDEX Visible inventory control plays in efficient railroad operation. Write Room 2253, 315 Fourth Ave., New York 10. Ask for MC689 (on loan)—"Railway Purchases & Stores."



Remington Rand
DIVISION OF SPERRY RAND CORPORATION

*Signaled with *Kardlok*, the exclusive feature which insures quicker setting, and positive, secure locking of signal settings.

COBRA[®] SHOES make key to lightweight



The superior friction characteristics of the Cobra Shoe have simplified the design of air brake equipment and related components, and made possible major reductions in weight, space requirements, and costs of braking systems for lightweight trains.

Only composition shoes can meet the braking requirements of these trains.

Of the eight lightweight trains in service or under construction, six use Cobra Shoes on all cars and locomotives.

Cobra Shoe performance has been proved in all classes of passenger service.

Write for complete information to Railroad Friction Products Corporation.

The COBRA[®] SHOE

Product of the combined research facilities of...

Westinghouse Air Brake Company
Specialists in Braking

RAILROAD FRICTION PRODUCTS

important contribution train development

- Reduce weight
- Reduce equipment space
- Reduce cost

The COBRA Shoe for railroad cars, locomotives and subway cars—a result of eight years of research.

COBRA Shoes assure smoother, quieter stops and less vibration.

Johns-Manville

Specialists in Friction Materials



Registered U. S. Trademark
Composition Brake Shoe

CORPORATION, Wilmerding, Pennsylvania



. . . guards perishables under ALL conditions!

Major refrigerator car builders have been using all-hair insulation for nearly half a century — and today they specify Streamlite HAIRINSUL because of its 40% less weight, higher efficiency and greater economy.

At any location, at any temperature Streamlite HAIRINSUL provides maximum protection to valuable shipments of perishables.

Yes, Streamlite HAIRINSUL assures you all the major advantages listed at the right — and more besides. Write for complete data.

AMERICAN HAIR & FELT COMPANY
Merchandise Mart • Chicago, Illinois

- **LOW CONDUCTIVITY** — Thoroughly washed and sterilized, all-hair heat barrier. Rated conductivity — .25 btu per square foot, per hour, per degree F., per inch thick.
- **LIGHT WEIGHT** — Advanced processing methods reduce weight of STREAMLITE HAIR-INSUL by 40%.
- **PERMANENT** — Does not disintegrate when wet, resists absorption. Will not shake down, is fire resistant and odorless.
- **EASY TO INSTALL** — Blankets may be applied to car wall in one piece, from sill to plate and from one side door to the other. Self-supporting in wall section between fasteners.
- **COMPLETE RANGE** — STREAMLITE HAIR-INSUL is available $\frac{1}{2}$ " to 4" thick, up to 127" wide. Stitched on 5" or 10" centers between two layers of reinforced asphalt laminated paper. Other weights and facings are available.
- **HIGH SALVAGE VALUE** — The all-hair content does not deteriorate with age; therefore has high salvage value. No other type of insulation offers a comparable saving.



SETS THE STANDARD BY WHICH ALL OTHER REFRIGERATOR CAR INSULATIONS ARE JUDGED.



TRACK JACKS now available include: (1) the Simplex Model A17P, with aluminum alloy housing and 13-in.

lift; (2) Model A5B with similar housing and 5-in. lift; and (3) 217P with malleable housing and 13-in. lift.

Track Jacks

Additional models have recently been added to the Simplex line of track jacks, which now offers a choice of eleven different models in a range of sizes from 11 in. to 29 in. in height, with lifts ranging from 5 in. to 19½ in. and weighing from 28 to 76 lb. All models are tested and rated at 15 tons capacity.

Design advancements of the new jacks include parallel non-slip grooves in the lifting toes, thumb guards and trips on both sides, and aluminum alloy housings for greater strength and lighter weight. The

jacks provide large forged and machined toes with a lift area of 2½ in. by 3¼ in. which, the manufacturer claims, enables them to set more firmly and stand straighter under tie or rail. Three models, the 16A, 217P and 217C, feature the large toe in a height of only 1½ in., thus eliminating the need for driving the jack into position and minimizing the removal of ballast. Two of the 13-in. lift units, models A17P and 217P, have a stop pin, but no cap, which reduces overall weight and cost. *Templeton, Kenly & Co., Dept. RA, 2525 Gardner road, Broadview, Ill.* •

Molded Car Seats

These foamed vinyl seats have less than a dozen components. The integral glass-reinforced polyester material molded on the steel frame forms a one-piece unit. This serves as a support for the molded Vinyl-foam cushioning, with its contoured surfaces and pin mold cores. It is said to have a favorable compression quality for vehicle seating.

The cushioning portion is heat-sealed to an encasing vinyl skin. These can be snapped on or off as a unit for cleaning or eventual replacement. These seats are available in any color, including white, and in numerous embossed patterns. *Elastomer Chemical Corporation, Dept. RA, 212 Wright st., Newark 5, N. J.* •

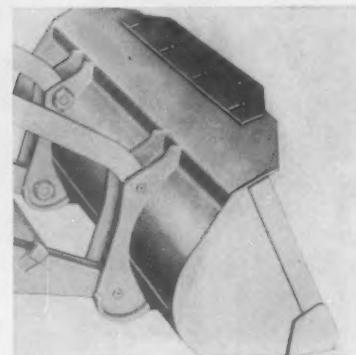


One-Wheel Car Shunter

The push rod of the Ilo single-wheel railroad car shunter acts to produce automatically the frictional pressure required between the driving wheel and the rail to move the

Spill Plate Attachment

Heaped loads of loose, friable material are said to be possible when the bucket is equipped with a new spill plate attachment. Designed for Traxcavators No. 977, No. 955 and No. 933, the new attachment is bolt-



ed onto the top edge of the bucket. It is adjustable and can be extended from 2½ to 5 in. above the bucket spill plate. *Caterpillar Tractor Company, Dept. RA, Peoria, Ill.* •

car. It is a small machine intended for moving one or two cars and is not a switching locomotive. The engine of the shunter has a continuous output of 6 hp. It is of air-cooled, single cylinder, two-stroke design. The unit's planetary gear arrangement transmits the engine power to the driving wheel. The annular frame, with the steering beams and the tilting stand, increases maneuverability. A 3-speed gear is accommodated in the box-type disc of the rubber-tired driving wheel. Driving power is transmitted by means of a clutch coupling. *Manufactured by Ilo-Werke G.M.B.H. Hamburg, West Germany. Distributed by Railroad Car Shunter Corporation of America, Dept. RA, Woolworth Building, New York 7.* •



harnesses diesels with OKONITE-OKOPRENE type DEL wiring

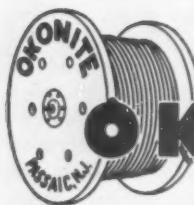
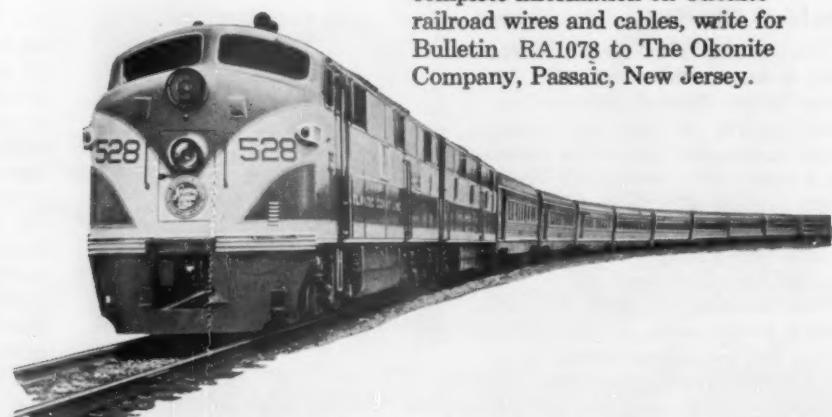


Mounting Okonite-Okoprene diesel wire in this wire harness sub-assembly saves labor for the Atlantic Coast Line. It eliminates the need for pulling individual wires through the diesel engine conduit system.

The Atlantic Coast Line Railroad, in keeping with its modernization program, selected a service-proved cable—Okonite-Okoprene type DEL—to harness its diesel locomotives. Service experience has proved that heat, moisture, mechanical abuse and oil—the main causes of damage to diesel circuits—have little or no effect on this cable's composite wall insulation and sheath.

Heat-resistant Okonite insulation, compounded with natural Up-River Fine Para rubber, provides time-tested mechanical toughness and electrical strength. The Okoprene sheath, a neoprene compound made to Okonite's own formula, is highly resistant to diesel lubricants and mechanical wear. Firmly bonded together by vulcanization in a metal mold, Okonite-Okoprene is the longest-lived diesel electric locomotive wire.

In addition to diesel wiring, Okonite-Okoprene is used on over 100 other Class 1 railroads for yard wiring, signal circuits and car wire. For complete information on Okonite railroad wires and cables, write for Bulletin RA1078 to The Okonite Company, Passaic, New Jersey.



OKONITE  *insulated cables*

Why Some Folks Oppose Deregulation

It is hard to find fault with conscientious Interstate Commerce Commissioners when they show signs of irritation at some of the criticism which government regulation of common carriers, especially railroads, has been getting. For one thing, critics of regulation do not always make it as clear as they might that their missiles are aimed primarily at restrictive regulation, not at the regulators.

The present commissioners are men of ability and integrity—but, like all the rest of us, they are human. It would not be in the nature of most human beings—assigned to the enforcement of a complex body of law and tradition—to give top priority to ways of simplifying the law, so that men of lesser attainments could easily administer it.

No Need for Experts

Back before World War II the British railways had an "agreed charge" with the Woolworth people. The railways hauled all of Woolworth's traffic, and made no charges whatever for handling individual shipments. Instead, Woolworth's simply paid to the railways an agreed percentage of their gross sales—in lieu of freight charges. We asked the manager of a large freight station in the London area what railway employees thought of this arrangement. His answer went something like this:

"We all like it—that is, everybody but the rate clerks. They don't like goods to be moved that can bypass their desks. I don't blame them. Nobody, who has spent a lifetime in learning his way through a labyrinth, wants to see the labyrinth destroyed, so his services as a guide are no longer needed."

That, one may suspect, is somewhat the way some regulators may be inclined to feel, perhaps subconsciously, about the Interstate Commerce Act. Most of them are acutely aware that the regulated carriers are suffering grievous and increasing harm and injustice from the operations of unregulated competitors. But it is, perhaps, their natural inclination to seek the remedy for this chaotic situation, solely or largely by applying additional regulation to the unregulated carriers—rather than by deregulating the over-regulated ones.

Let's be fair and recognize that there are many railroad men, too, who prefer to establish equitable treatment of all transportation agencies by regulating them all, rather than by granting them all equal freedom.

Practically nobody openly and unequivocably defends inequality of regulation—but those who say they expect

to achieve this equality by bringing the unregulated under regulation must be short in perception. Most of the unregulated carriers are private carriers. And you can't regulate the charges of a carrier who hauls only freight that he himself owns. There are, of course, some unregulated carriers (e.g., "agricultural exemption" trucks and bulk water carriers) which are not "private," and which should be brought under regulation. But—if the unlikely should happen, and all for-hire carriers now exempt were to be regulated—the problem of inequitable regulation would still remain, because the private carriers would still be in business.

There is only one realistic course for genuine friends of equal treatment for the common carriers to pursue—and that is to advocate deregulation of common carriers, to the degree necessary to enable them to compete on substantially equal terms with contract and private carriers. This means, simply, that common carriers should be authorized to carry on a contract-carrier business, on the side.

Private carriers and contact carriers, even with higher unit costs of operation, are now able to compete with common carriers by limiting their operations to situations where full loads are obtainable in both directions. Well, then, what's wrong with permitting a common carrier to make reductions to shippers who will contract to provide two-direction loads or will guarantee other conditions which will reduce the carrier's costs?

Canada's Contract Rates

In Canada, with "agreed charges," the railways are able to offer substantially this kind of contractual service—and with ample safeguards to prevent arbitrary discrimination among shippers. Comprehensive articles in our November 26 issue and in the November issue of our sister publication, Railway Freight Traffic, tell in detail how well this device is working—to the satisfaction of carriers and shippers alike.

Almost one-eighth of total freight revenues of the Canadian railways now come from agreed charges. The only people, apparently, who don't like this service are the truck operators. Interprovincial trucks in Canada are not regulated—so all of them are contract carriers, anyhow, if they choose to be. The "agreed charge" arrangement merely extends to the railways a right which their truck competitors already enjoy. And agreed charges haven't really hurt the truckers—because their business is booming, in spite of the availability of contractual rates by the railroads.

There are some railroad people who are fearful less contract rates, if legalized, be used by powerful shippers to drive down railroad rates unjustifiably. This danger seems not to have arisen under the steadily expanding Canadian program.

How the Q Uses Modified CTC

The basic idea

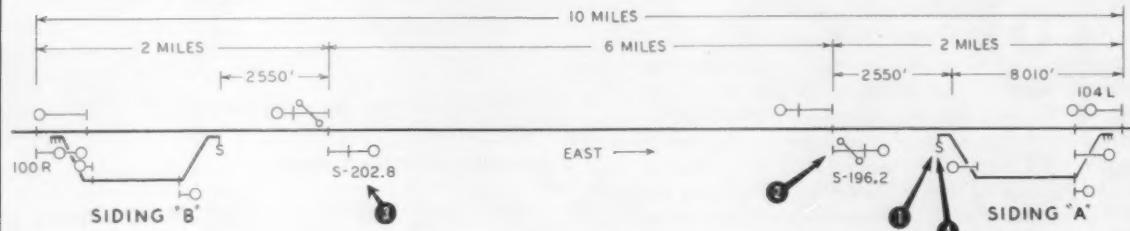
For medium traffic single track, the Burlington is using a power switch and complete signaling at only one end of each siding, a spring switch at the other end. Installation cost at sidings is reduced about 35%.

How it works

As a rule, trains are directed to enter a siding at the power switch end. However, signaling is arranged for entering at the spring switch end if train time can be saved. Here's the procedure . . .

1. Referring to the typical track and signal plan below, the dispatcher decides that an eastbound train is to be directed to enter the spring switch end of the siding at station A.

2. He sends out a control code that causes eastbound signals S-196.2 to display an aspect of "red over two lunar lights." The lunar lights are 3 ft apart, at an angle of 45 degrees.



3. Also, the next signal in approach, S-202.8 displays the approach aspect, yellow. These aspects direct an eastbound train to pass signal S-196.2, and stop just short of the switch at the west end of the siding A.

4. Then a member of the crew reverses the switch by means of the hand-throw stand so that the train can enter the siding; returning the switch to normal at completion of the movement.

Insofar as opposing train movements are con-

cerned, the overall siding-to-siding block is from one power switch to the next as for example the 10 miles from signal 104L at siding A to signal 100R at siding B. Intermediate signals permit trains of the same direction to follow in the same siding-to-siding block.

Signal S-196.2 was located far enough west to make the block between this signal and westward signal is two miles, which is equal to train stopping distance plus a safe margin at this location.

Background

Such a modified arrangement of centralized traffic control has been developed and installed extensively on the Burlington, the most recent project being on 69 miles of single track between the west end of Bushnell, Ill., and Carthage Junction.

Previously no signaling was in service on 44 miles of this section of single track. Siding switches were hand-thrown, and train movements were authorized by timetable and train orders. Some form of track-circuit controlled signaling was desired.

This road's experience showed that

conventional automatic block gives protection, but necessitates the continued use of timetable and train orders to authorize train movements. On the other hand, it was well known that the practice of authorizing train movements by signal indication, in centralized traffic control territories, saves train time, increasing track

capacity and improving safety. (The Burlington has over a thousand miles of heavy traffic lines equipped with conventional CTC.)

In the Bushnell-Carthage Jct. territory, the objective was to adopt a form of centralized traffic control modified to the requirements of medium to light traffic, and by this modification to reduce the equipment required, so that the cost would be not much more than for a complete system of conventional automatic block. Such expenditure was considered justifiable for signaling in this territory.

The Burlington in 1950 had developed such modified CTC for extended single track installations. A major project on 240 miles between Ravenna, Neb., and Alliance was completed in 1951.

How switch is located

Representatives of the operating, engineering and signal departments cooperated in determining the end of each siding at which the power switch was to be installed, to fit in with train operations and grades. In general, the decision was on the basis that loaded trains in the direction of preponderance of traffic are to hold the main, and lose very little time making meets. Other factors being equal, the power switch is at the east end of one siding, and at the west end of the next one. The siding turnouts are No. 15 with 30 ft points, suitable for speeds up to 30 mph.

How traffic is rated

With reference to single track lines, the Burlington applies the terms "light traffic," "medium traffic" or "heavy traffic" on the basis of several factors: (1) average number of train movements daily; (2) train interference, based on number of meets and passes in territory being studied;

and (3) tightness of schedules as part of overall run between major cities.

Daily traffic in the Bushnell-Carthage Jct. territory includes three passenger trains each way, three through freights southward and two northward, with a local freight northward daily except Sunday. About 45 extra freight trains are operated each month. Thus an average of about 13 trains are operated daily.

This 69-mile line is a portion of the route of the Burlington between Chicago and Kansas City. Fast passenger trains make this 466-mile run in 8 hours, including nine scheduled stops. Scheduled freights make it in about 12 hours. These schedules have to be maintained on an on-time basis to meet competition. The two fast overnight passenger trains, as well as two manifest freights, all regularly meet in the 69 miles between Bushnell and Carthage Junction.

How CTC saves time

As explained by the dispatcher, the CTC has proved to be the means of saving time in numerous instances. For example, the meet between the two opposing day passenger trains has been advanced about 35 miles, which saves about 30 min for one of these trains. The eastward manifest freight No. 70 was previously held at West Quincy for a meet with westbound passenger train No. 35. Now, with the CTC, the regular practice is to advance No. 70 up a hill 6 miles to the siding where it meets No. 35; which saves at least 25 min for No. 70 almost every day. The dispatcher uses the CTC effectively to get the local freight train over the territory much faster than previously. This is important for connections with through trains at Galesburg.

Prior to the installation of the CTC, sidings at Macomb, Colchester,

Augusta, Camp Point and Ewbank were lengthened to 140-car capacity, and at Golden to 130 cars. These five sidings were equipped for CTC. The CTC control machine is in the dispatcher's office at Galesburg.

This CTC was planned and installed by railroad forces under the direction of A. L. Essman, chief signal engineer. The major items of signal equipment were furnished by the General Railway Signal Company.



TRAINS NORMALLY ENTER at power switch end of siding, and . . .



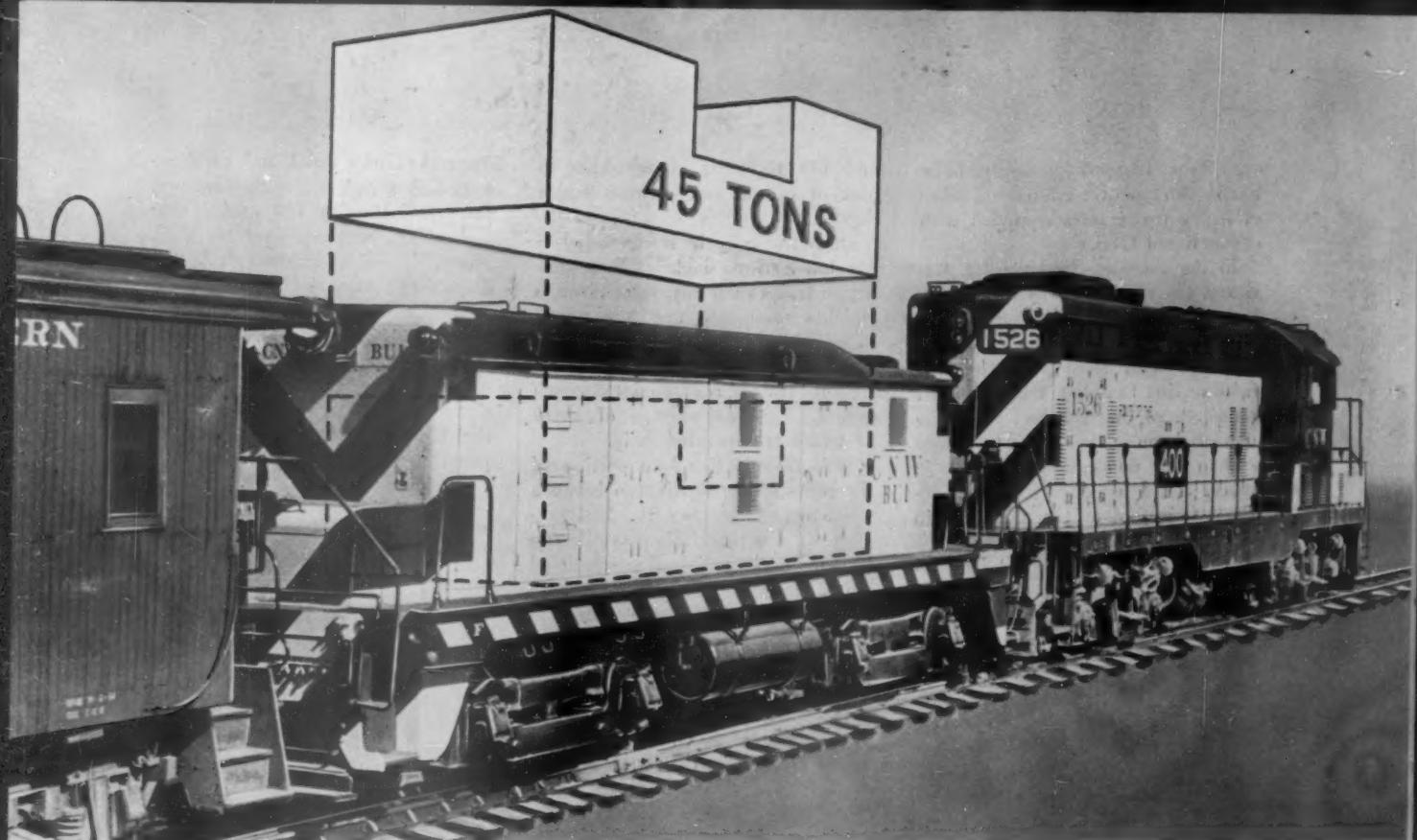
TRAIL OUT through spring switch end, but . . .



SPECIAL ASPECT is displayed if train is to enter spring switch.

Where the Burlington Uses Single-Track Modified CTC

	Year Installed	Miles	Daily Trains	
			Pass.	Fr.
Alliance, Neb., to Ravenna	1951	240.4	4	5
Estelline, Tex., to Wichita Falls	1951	125.9	4	8
Bushnell, Ill., to Carthage Jct.	1955	69	6	7
Mark, Mo., to Macon	under construction	64.8	6	9



Switcher Has a 'Concrete Engine'

No. 1201, a 17-year-old 600-hp General Motors locomotive, was rescued from the scrap heap by the Chicago & North Western. It has been converted to a booster locomotive, No. BU-1. Its operation has been so successful that plans are under way to convert several other diesels which have completed their normal life span.

The diesel engine, engineer's cab, generator and accessory equipment were removed, and a block of concrete was cast inside to compensate for loss of weight. Only the electric

traction motors were left intact, geared to each axle.

The 45-ton block of concrete, made up of 1,000 ft of rail weighing 34,398 lb, and 54,881 lb of concrete, gives the BU-1 the equivalent weight of a GP-7 (120 tons) the locomotive to which it is regularly coupled. The BU-1 has the same pulling power as the GP-7 at speeds up to 10 mph.

The traction motors of the BU-1 are connected in two series circuits in parallel to each other. A blower in the center of the unit cools the four motors. The unit is equipped

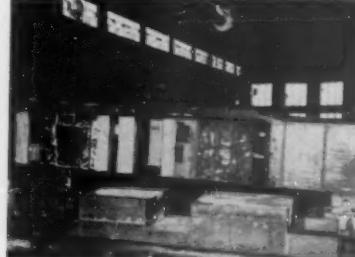
with a standard air brake system. The entire unit is cut out at 10 mph by a simple, manual control.

With the regularly coupled locomotive furnishing electric power from its generators to the traction motors of the booster unit, the assembly is said to provide substantial economies in switching heavy trains, releasing regular locomotives for more profitable use elsewhere.

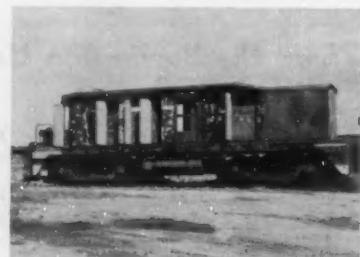
It is now in service, in the C&NW's Proviso yard, and will be used to relieve "cow and calf" units on the hump.



CONCRETE being poured.



HOOD is lowered on unit.



READY for the painters.

PROBLEM: Townspeople of Winchester, Mass., complained that trains of the Boston & Maine blocked highway grade crossings during periods of peak vehicular traffic.

This was a case where the streets were established and the railroad built when the town was a small suburb of Boston. As the town grew, more trains were added to handle the commuter traffic and more automobiles and trucks appeared on the streets, creating excessive congestion at the crossings. The only feasible solution was to separate the rail from the vehicular traffic, but the B&M alone could not swing a public-improvement project of this magnitude.

SOLUTION: Passage of a new state law made it possible to use funds collected from vehicle taxes for such improvements. Collaborating with the Department of Public Works, the B&M elevated its tracks through the town, constructed bridges for street underpasses, and built two new passenger stations.

Line Raised to Clear Streets

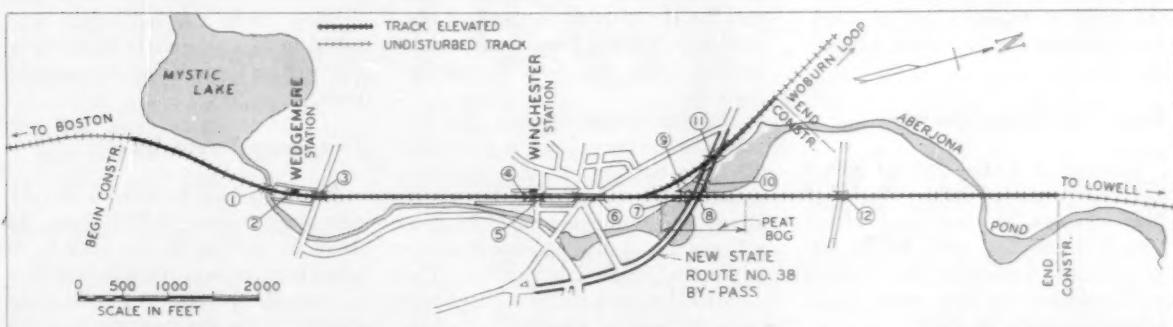
Take five busy streets which come together at a double-track railroad. Add a town-square shopping district. Then mix the normal vehicular traffic of a state road and the abnormal number of family cars during morning and afternoon rush hours with 73 daily trains. Result: a difficult traffic problem. And it can't be expected that manually controlled air-

operated crossing gates and the presence of a town policeman controlling traffic lights during the congested hours will do much to help the situation.

That was the situation in Winchester, which is served by the New Hampshire main line of the Boston & Maine. However, all has now been changed for the better. As a result

of a \$6-million project, rail and vehicular traffic have been separated by raising the tracks 18 ft. In addition, much local and through vehicular traffic now will use bypass routes under the tracks.

About 15 years ago the town began to protest against severe traffic congestion. The railroad had crossing gates with men on duty 24 hr



RAISING TRACKS 18 ft to separate rail from street traffic on about two miles of the New Hampshire main line and $\frac{1}{2}$ mile of the Woburn Loop line required building a new three-track switching yard north of the area. The existing main tracks were temporarily relocated 50 ft to the west while the culverts, bridges and new grade were being constructed. The numerals on the plan refer to new structures, as follows: (1) concrete-box culvert with 30-ft opening; (2) pedestrian underpass through a concrete box 8 ft wide; (3) Bacon Street underpass—50-ft

deck-plate girder span; (4) pedestrian underpass through a concrete box 10 ft wide; (5) Common Street underpass—50-ft deck-plate girder span; (6) Church-Main underpass—four deck-plate girder spans in lengths of 55 ft, 40 ft, 40 ft and 55 ft; (7) concrete-box culvert with twin 15-ft openings; (8) Route No. 38 underpass—55-ft deck-plate girder span; (9) concrete-box culvert; (10) concrete box culvert; (11) Route No. 38 underpass—through girder span; and (12) Swanton Street underpass—50-ft deck-plate girder span.

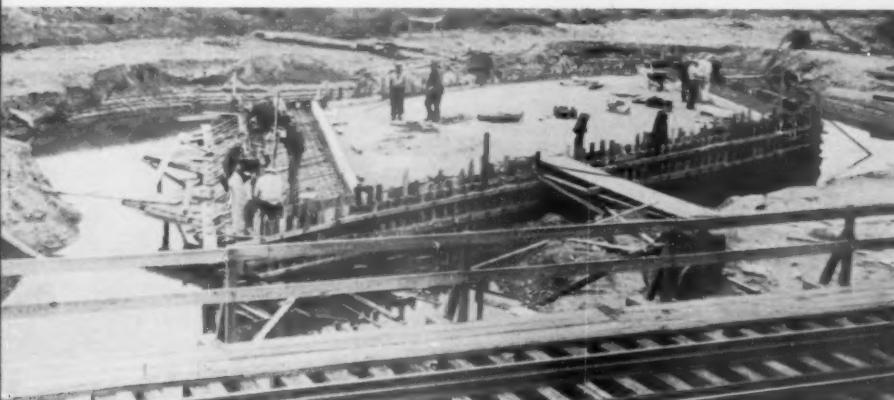


LONGEST underpass constructed is a four-span deck-plate girder bridge

near Winchester station where five streets come together.

TRESTLE carrying the temporary tracks at low grade over a peat bog was of steel H-pile and I-beam cap-

and-stringer construction. Piles varied from 175 to 262 ft in length to reach solid footing.



each day, and the town installed traffic lights operated from a control tower on top of a crossing tender's quarters, from which, during peak traffic periods, a policeman directed traffic. However, the only real solution lay in separating the rail from the vehicular traffic, a project much too expensive for the railroad to undertake.

State Law Opens the Way

Passage of a state law permitted the Department of Public Works of Massachusetts to use funds from vehicle taxes for such public improvements. A study of the situation at Winchester was then made in collaboration with the B&M.

The plans evolved called for elevating the two main tracks 18 ft above the street intersections, with 0.35 per cent run-offs in a northerly direction and 0.4 per cent southerly from Winchester Square, the construction of a bypass around the town for State Route 38, the construction of a new

three-track switching and storage yard north of the construction area to replace an existing yard at Winchester, and the building of two railroad stations, 0.6 mile apart, at the ground level with access to platforms from the second floor. Also involved was the elevation and run-off of the railroad's Woburn Loop track which connects with the New Hampshire main line.

The plan of construction called for relocation of the existing main tracks 50 ft to the west so that the new embankment and new structures over streets and waterways could be constructed along the permanent route without rail-traffic interruptions. The construction area includes about two miles of the New Hampshire double-track line and about one-half mile on the Woburn loop. Funds were made available for this work by the Department of Public Works and the work was started in April 1954.

One of the interesting engineering problems encountered was the building of a stable embankment, about



STATE ROUTE No. 38 was relocated to relieve traffic congestion across tracks near town square. Twin concrete box (center) will carry highway over Aberjona pond and girder bridge (background) will carry Woburn Loop line over highway.

900 ft long, over a peat bed adjacent to the Aberjona river. Soundings revealed that the peat ranged from 40 to 60 ft deep before a more firm material (sand) was reached, and that the groundwater level was only 8 ft below the base of rail of the existing tracks. A soil expert was called in as a consultant in devising a procedure for building the embankment.

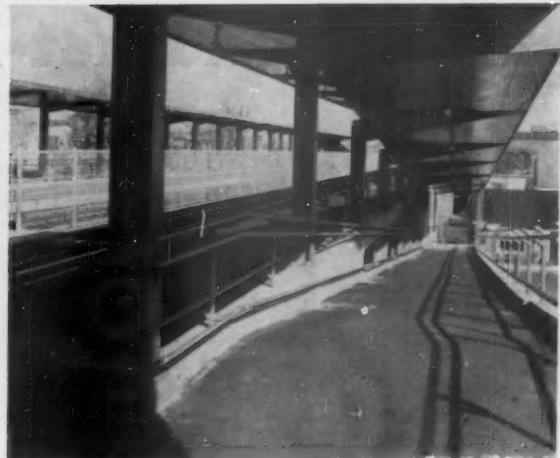
Temporary Trestle Used

It was decided to drive a 45-span temporary trestle, 900 ft long, to carry the existing double track in its offset location over the peat bed, then to excavate the peat to a solid foundation along the permanent track alignment in such a way as to preclude its sloughing in from the sides of the excavation.

The temporary trestle was built with steel H-pile and I-beam cap-and-stringer construction. The H-piles varied from 80 ft to 262 ft in length after cutoff. They were driven in



NEW STATION, at ground level, is constructed of reinforced concrete with exteriors faced with seamed granite.



RAMPS are used by commuters between track and ground levels. Canopies are supported by cantilever beams.

55-ft lengths and the sections were welded together with splice plates. The trestle floor was of the open-deck type and was provided with walks and railings on each side for trainmen.

After construction of the temporary trestle, an overburden of rubbish, 6 ft thick, was removed from the bog. The peat was partially excavated by a clamshell and then removed by a dragline. The soil consultant stipulated that no more than a 100-ft section of peat was to be excavated at one time before backfilling with gravel and that the water level in the excavation had to be held one foot higher than the natural groundwater table. The purpose was to provide a small hydrostatic pressure to keep the sides of the excavation from sloughing.

A water jet was used under the temporary trestle to remove the peat from that area to a point where a dragline could pick it up. Altogether, it was necessary to excavate about 220,000 cu yd of peat.

Operation Shifted on Sunday

Before the work could be started, Western Union, signal and other communication facilities were relocated to the east side of the existing line, a new switching and storage yard was built, and a contractor prepared the subgrade for the temporary main tracks. When these were completed, the temporary main tracks were built up to the ends of the construction area.

After passage of the last train on a Saturday night, the existing main tracks were cut and thrown over to join up with the ends of the temporary tracks, and Sunday trains began operation on the detour route. A turnout was installed at each end of the construction area to permit rail access to the former main tracks for the purpose of removing the original main-line tracks, and the interlocking was adjusted to the temporary layout.

Continuous Rail Used

The former main tracks were taken up by highway and track cranes working each way from Winchester Square. Strings of continuous welded rail, 700 ft long, were dragged from the passenger station area about $\frac{3}{4}$ mile along the old roadbed to the south end of the construction area. The ties, rail and other track materials were stock-piled at each end of the construction for reuse later on.

Subsequent procedure included: Construction of cast-in-place concrete bearing piles for most all of the bridge structures; building of concrete retaining walls for supporting the new embankment in the station areas, and facing the walls with ashlar seam-faced granite block; construction of the new passenger stations and platforms at the upper level; construction of two pedestrian underpasses; placing of new embankments and erection of bridge superstructures; reconstruction of the main tracks at the elevated level.

reusing the old materials; building a temporary interlocking plant at the south end to handle trains at ground level for the Woburn loop until the permanent connection to the loop could be completed; and completion of the Woburn Loop connection.

A Highway Rerouted

One of the important measures taken to reduce vehicular traffic across the tracks at the town square was the construction by the Department of Public Works of a new route for State Road No. 38. The relocated highway bypasses the main part of the town and crosses the railroad about $\frac{1}{2}$ mile north of the former crossing under a new structure. To do this the new highway had to cross the Aberjona river, and again the peat had to be excavated with the same care as was used for constructing the railroad embankment to assure a stable embankment.

Plans call for completion of the entire project in May 1957, after shifting main-line trains to the high level late in 1956. The grading, construction of Wedgemere passenger station, retaining walls, pedestrian underpasses and street bridges and the removal of the peat are being carried out under contract with C. J. Maney Company, general contractors.

The passenger station at Winchester is to be erected by the Frederick-Billings Company. The track, signal and communications work is being carried out by railroad forces.

Here's a Market-Minded President

Erie's Harry Von Willer is devoted to education and fact-finding—and to making complex questions simple

With the railroads rapidly transforming themselves into a market-minded, competitive business—the Erie has chosen as its president one of the nation's best informed and most articulate traffic officers, Harry W. Von Willer. He has few equals in his ability to translate complex problems of the competitive transportation market into terms understandable to the uninitiated.

Some three years ago Mr. Von Willer prepared some charts illustrating total traffic growth in contrast to the curve of railroad traffic growth—and other such trends of vital importance to the future of the railroads. Armed with these charts, a pointer and a firm grasp of all supporting facts, he gave a lecture of such educational value to an audience of non-traffic people that he was called upon to repeat it again and again. Since that time, he has had a full calendar of speaking engagements—wherever there is a complex traffic policy problem which needs clarification.

The Erie is one of the relatively few railroads which has engaged intensively for a good many years in market, cost and related kinds of economic research. Mr. Von Willer is deeply convinced of the necessity of research of this kind to the welfare

of the railroad industry. About a year ago a group of Western railway officers invited Mr. Von Willer and two other railroad people, highly informed in this sector, to address them. Mr. Von Willer wound up his presentation with these words:

"Market research is the most important subject on the railroads' agenda. To stay in business and grow we must engage in market research—how much volume each form of transportation is getting; and our costs and rates compared with those of our rivals. We should engage in this research regionally, and on our individual railroads."

The Erie's new president is a Hoosier by birth (1896). He has spent all of his 41 years of railroading (with two years out for the army, 1917-19) in the traffic department. He first intended to be an engineer, though—and had a couple of years of education in electrical engineering at Purdue. He also studied accounting for a year (while he was working) at the University of Indiana. As general agent for the Erie at Minneapolis in the early '30's he found time to take a course in transportation law at the University of Minnesota. Mr. Von Willer's railroading was with the Big Four (New York Central) until 1923

—and thereafter with the Erie, where he has been traffic vice-president since 1942.

Mr. Von Willer shares the enthusiasm for systematic education of his two predecessors in the presidency of the Erie—Paul W. Johnston and Robert E. Woodruff. Programs of employee selection and education and managerial development were instituted by Mr. Woodruff, and were carried on with unrelenting vigor under the regime of President Johnston. Mr. Von Willer was actively involved in the application of these programs to the traffic department.

All Erie traffic department employees are offered a two-year program of schooling in traffic work (about a half-day per week of class-work on company time—preparation on employees' own time). This program has been carefully worked out, with traffic department people doing the teaching—and a number of universities are using the materials of the course in their education of students of transportation.

In addition to this overall educational program, the Erie also brings in a limited number of graduates in business administration for a special two-year apprentice course. These apprentices spend their first month in



MR. VON WILLER ON BUSINESS RESEARCH

"We are looking for the facts to answer the thousands of questions that come up on a railroad—and to which none of us ever, before, could find the answer."

"We do not let the business researchers originate the subjects they will study. They go only into questions submitted to them by management. Otherwise the researchers would have to spend

their time 'selling' their wares to management."

"When we started our research we went to the officers of two railroads already engaged in it (Stanley Berge on the Illinois Central and Ernest Nickerson on the New Haven) and we asked them: 'What would you do, with what you know now, that you didn't do when you started your program?'"

the office of the traffic vice-president, where they get their orientation in the railroad business and the work of the traffic department. They then put in a half-year under the jurisdiction of the manager of station operation, working at all the key jobs in this area. (They work alongside regular employees, not replacing them.) Then comes another half-year with the assistant vice-president (rates); and almost a full year in the business research department—where the work familiarizes them with the functioning of all railroad departments.

These special apprentices, of course, get all the instruction, including selling, that is provided for other traffic department employees. The Erie has adopted this special apprentice program to "bring high-grade men into our employ whom we need, but whom we cannot attract if we require them to work their way up slowly through the ranks."

The Erie does not restrict itself to these specially trained people for managerial appointments. Employees

QUESTION: Mr. Von Willer, how does it come that you—one of the pioneer enthusiasts for developing piggyback service solely for the railroads' own account—are now active in extending this service to common-carrier truckers?

ANSWER: The principle that railroads ought to offer piggyback service to common-carrier trucks was not made by the Erie—other railroads decided that question for the industry. In going out after this business, we are accepting conditions as they are.

arising through the ranks have full opportunity to compete for these assignments.

Mr. Von Willer was "in on" the development of the Erie's business research program, as well as that of traffic department personnel development; and he is just as enthusiastic for this research as he is for the educational program.

He tells how this research activity was first started—back in the early 1940's, with two men to head the department. One was a man with a large background of practical railroad experience and the other was a professional market research man. The

second man resigned after a time, with the advice that his associate with the all-railroad background was fully competent to carry on the work, and so it turned out. The department, of course, employs people with the college background in statistics that is needed for the department's work.

Research—education—selling (in the widest meaning of the word). These are the skills and the enthusiasms that Harry Von Willer has brought to his work as a traffic executive; and which will certainly not lose their high place in Erie's management policy, now that he's taking over the reins as president.

Railroading

After Hours

Shoo-Fly Explained

Operating Vice-President Ralph Johnson of the Tex.-Mex. has the answer to the origin of the term "shoo-fly." He says:

"Temporary construction around a bridge or derailment is, at best, pretty shaky. The term 'shoo-fly' indicates that the temporary track is carrying all the weight it can stand; hence 'flies keep off, no added weight wanted'."

Mr. Johnson says he'd been waiting for somebody else to relieve my ignorance on this point—and he goes on to tell about a problem of employee behavior that, he assures me, arose before his time. Anyhow, the story has to do with an old-time Texas railroad which at one time found it necessary to make the following rule:

"Conductors on passenger trains will not be required to wear coats but must wear shoes at all times while on duty."

This reminds me to ask when the rule against smoking on duty by passenger trainmen was abrogated. It used to be forbidden, at least on most railroads—but it doesn't seem to be so any more. Not that it makes

by
James G.
Lyne



Editor,
Railway
Age

any difference to me, personally—but I'm just curious.

And I'm wondering if it is still a rule that trainmen remove their hats in dining cars?

Big Letters

Bill Schmidt, my recent associate who now heads public relations for the B&O, has entered the lists on the question of what road was the first with big lettering on its cars. Bill reports that President Howard Simpson has interested himself in this debate—to the point of having the B&O archives searched for evidence.

As a result, Bill has sent to me a pile of photographic exhibits, going back to 1832, to substantiate B&O claims to a "first" in the praiseworthy practice of lettering cars so that own-

ership is evident without a magnifying glass.

Omitting some of the earlier pictures—where the cars shown are replicas or models of the originals—there is one undated photograph of Locust Point yard which shows box cars with B&O and CWB (Cincinnati, Washington, Baltimore) lettering. From the looks of the engines in the picture, it must date back, at least, to the 1880's—and the initials on these cars are mighty near as high as the cars themselves.

I am now wondering whether it wouldn't be better to change this question—from what railroad *first* used big lettering to what railroad changed big lettering from a rarity into an industry trend. There is a difference. Leif Ericson got to America some centuries before Columbus, but it wasn't until after 1492 that the word got around enough for trips to America to become popular.

S. E. Herring, New York Central engine dispatcher at Bellefontaine, Ohio, tells me he has a photo of two Ft. Dodge, Des Moines & Southern gons—taken in 1912. And the lettering completely covers the cars from end to end and top to bottom.

People in the News

CURRENT HAPPENINGS AMONG Railway Officers

ARKANSAS & LOUISIANA MISSOURI.—Offices of this road, the Louisiana & Pine Bluff, and the Mansfield Railway & Transportation Company, formerly at Shreveport, La., are now located in the Ouachita National Bank Building, Monroe, La.

ATLANTIC COAST LINE.—J. M. Perry, superintendent terminals, Waycross, Ga., appointed superintendent, Wilmington district, Wilmington, N.C., succeeding J. F. Rogers, retired. A. A. Karle, trainmaster, Waycross, appointed superintendent terminals, Waycross, succeeding Mr. Perry. M. S. Jones, Jr., assistant to general superintendent transportation, Wilmington, appointed acting superintendent, Richmond district, Rocky Mount, N.C. H. W. Pinner, staff assistant (executive), appointed assistant general superintendent transportation, Wilmington.

BELT OF CHICAGO.—Gordon R. Payne appointed traffic manager, Chicago. John V. Benson named to the newly created position of general agent, Atlanta, Ga.

BOARD OF TRANSPORT COMMISSIONERS FOR CANADA.—John D. Kearney, chairman, Ottawa, Ont., will resign early next year because of ill health and take over a position on the Exchequer Court of Canada. Judge Kearney will be succeeded as chairman on the Transport Board by Clarence D. Shepard, who has represented the government of Manitoba in freight rate cases before the Transport Board for many years.

BURLINGTON.—O. K. Lucas, traveling passenger agent, San Francisco, appointed district passenger agent, Portland, Ore., succeeding W. H. Kramer, resigned.

CANADIAN NATIONAL.—Marc Meunier, assistant manager of French services, public relations department, Montreal, appointed manager of French services, succeeding to the duties of Claude Melancon, assistant director of public relations, retired (Railway Age, Nov. 12, p. 16).

CHICAGO & NORTH WESTERN.—Carl T. Crumrine appointed director of the newly created purchases and stores department. Mr. Crumrine was formerly director of fibre purchasing and traffic, Alton Box Board Company, Alton, Ill.

E. L. DeVol, staff officer, personnel department, named assistant superintendent, Chicago. The following appointed trainmasters: A. H. Frazell, Sterling, Ill.; D. R.

Freyer, Eau Claire, Wis.; L. V. Gallup, Mankato, Minn.; R. W. Geigel, Huron, S.D.; V. B. Hussey, Proviso yard, Chicago; M. H. Long, Cedar Rapids, Iowa; W. M. McCartney, Mason City, Iowa; W. G. Rauschke, South Pekin, Ill.; H. J. Ziegelbauer, Adams, Wis.

Victor C. Barth, assistant engineer of tests, appointed chief metallurgist and engineer of tests, Chicago, succeeding Robert E. Coughlan, retired, (Railway Age, Oct. 29, p. 34).

CLINCHFIELD.—A. S. Alford appointed district freight agent, Augusta, Ga., succeeding J. B. Simpson, deceased.

EASTERN RAILROAD PRESIDENTS CONFERENCE.—William A. Catonoch, assistant to chairman, New York, promoted to assistant chairman.

ERIE.—Frank Youngwerth, assistant general superintendent communications and signals, Cleveland, appointed general superintendent communications and signals, succeeding William S. Storms, who retired November 30. Oliver G. Carey, general signal inspector construction, appointed assistant general superintendent communications and signals.

Rapha P. Steen appointed superintendent of police and fire prevention, Youngstown, Ohio. Position of chief of police, formerly held by Mr. Steen, abolished.

GULF, MOBILE & OHIO.—Lee H. Peu, formerly associate general counsel, Interstate Commerce Commission, Washington, D. C., appointed a general solicitor of the GM&O, Mobile, Ala. John W. Adams, Jr., attorney, appointed commerce counsel, and Percy W. Johnston, Jr., attorney, named general attorney.

ILLINOIS CENTRAL.—Homer F. Wilson, superintendent passenger service, Chicago, promoted to superintendent transportation there. Mr. Wilson's successor is Charles S. Condon, Chicago Terminal division trainmaster. Frank A. Hoevel, assistant trainmaster, Chicago, and Harry R. Koonce, trainmaster, Kentucky division, Louisville, named trainmasters, Chicago Terminal division. Ralph C. Haynes replaces Mr. Koonce at Louisville.

KANSAS CITY TERMINAL.—M. E. Parks, traveling engineer, Great Northern, Grand Forks, N.D., appointed assistant superintendent, KCT, Kansas City, Mo.

MILITARY TRAFFIC MANAGEMENT AGENCY.—E. C. R. Losher, executive director of this recently organized agency at Gravelly Point, Va., has been promoted from Brigadier General to Major General, United States Army.

MISSOURI-KANSAS-TEXAS.—Henry J. Carr, assistant freight sales manager, St. Louis, appointed freight traffic manager there, succeeding Harvey Allen, who retired December 1. J. R. Knoblock, district freight sales representative, Washington, D.C., appointed district passenger sales manager, New York, succeeding R. A. Jordan.

MISSOURI PACIFIC.—E. H. Gerber appointed freight claim agent, St. Louis, succeeding



George E. Wilson



R. W. Tomlinson

G. A. Stover, retired (Railway Age, Nov. 26, p. 41).

NEW YORK CENTRAL.—W. C. Wardwell, general mechanical superintendent, Eastern district, appointed general mechanical superintendent—locomotives, system, New York, succeeding Ashley L. Wright, retired (Railway Age, Nov. 12, p. 37). E. H. Wright, assistant mechanical superintendent, Western district, Cleveland, appointed mechanical superintendent, Eastern district, New York. B. L. Strohl, assistant general mechanical superintendent, Eastern district, named assistant mechanical superintendent of that district.

Harry W. Moore, Jr., district superintendent, Service department, Combustion Engineering, Inc., New York, appointed to newly created NYC position of coal sales manager, Eastern district, New York.

Ernest Bird Moorhouse, who retired in April as terminal manager for Grand Central Terminal, appointed assistant vice-president in charge of operations for the New York Coliseum.

NORTHERN PACIFIC.—C. V. Schutt, assistant district engineer, St. Paul, named superintendent of NP's general office building there, succeeding E. H. Brown, who retired December 1.

PACIFIC ELECTRIC.—D. R. Lewis, vice-president, appointed vice-president and general manager, Los Angeles, Cal., succeeding the late George F. Squires (Railway Age, Dec. 3, p. 70).

PENNSYLVANIA.—John F. Finnegan, assistant to vice-president, New York, retired.

RAILWAY EXPRESS AGENCY.—James A. Warren, assistant to vice-president—administration and finance, New York, appointed assistant director, public relations, New York.

READING.—George E. Wilson, purchasing agent, Philadelphia, named general purchasing agent there, succeeding Wesley A. Clem, who retired December 1. Russell W. Tomlinson, assistant purchasing agent, appointed purchasing agent; Joseph K. Hermon, assistant to purchasing agent, named assistant purchasing agent, and Harold L. Nose, chief clerk, purchasing, appointed assistant to purchasing agent.

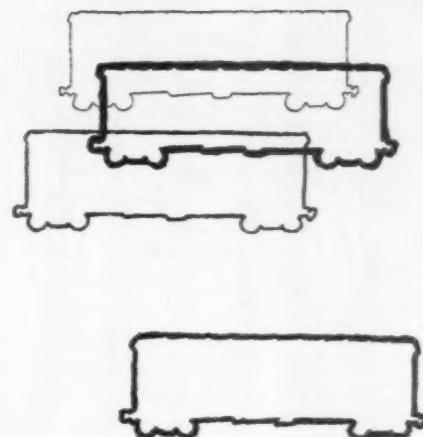
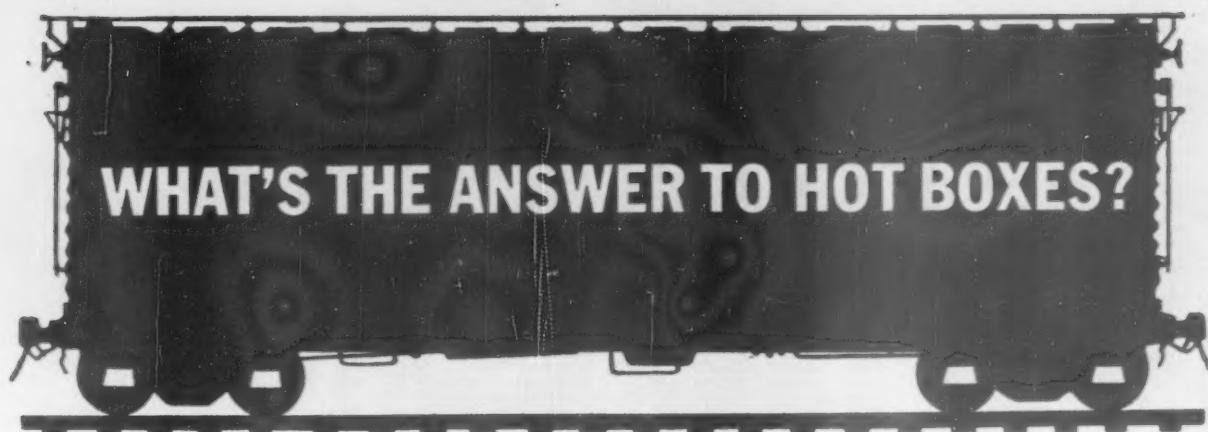
SEABOARD.—Paul W. Harris, assistant general passenger agent, St. Petersburg, Fla., transferred to New York to succeed V. T. Boatwright, Jr., who resigned to accept a position with General Dynamics Corporation. Bruce J. Towner, city passenger and ticket agent, Birmingham, Ala., appointed division passenger agent, Savannah, succeeding Fred R. Wiggins, Jr., who replaces Mr. Harris at St. Petersburg. P. A. Lewis, commercial agent, Jacksonville, appointed (Continued on page 52)



Carl T. Crumrine
C&NW



D. R. Lewis
PE



Wise maintenance, not gimmicks!

"Stop hot boxes" . . . "No more hot box troubles" . . . so it goes, all the headlines promising the magic cure. But is it really that simple? Are lubricating "gadgets" the real answer to the hot box problem?

First, and perhaps most important of all, these devices still have to be proved in service, since most of them have been approved on the basis of short-time tests. Only time will tell if they can withstand the severe shocks of actual operation. Secondly, these mechanical or other contrivances are expensive. Finally, they present problems for maintenance men because they all have a little bit different construction and handling procedures.

A study of the maintenance records for a group of typical railroads using thread packing shows an average of nearly 900,000 miles per hot-box car. However, some lines roll up almost four times the mileage of others . . . without higher maintenance expenditures. The answer seems to lie in the "good housekeeping" of these roads . . . spending the same number of maintenance dollars, but more wisely.

We can help you with this problem. Our members specialize in the production of thread packing . . . the best available. We've worked hand-in-hand with the AAR to develop top-quality packing. Our Seal on bales of new packing guarantees quality which meets or exceeds AAR requirements. It has been proved that the economies and service life of thread packing, used in 90% of the nation's rolling stock, are still tops.



INSTITUTE OF THREAD MACHINERS, INC.

141 East 44th Street, New York 17, New York

Atlas Processing Corp., New York, N. Y.
Meyer Burstain & Sons, Neenah, Wisconsin
Dallas Waste Mills, Dallas, Texas
The J. Milton Hagy Waste Works, Philadelphia, Pa.
John J. McGrath, Inc., Philadelphia, Pa.
Miller Waste Mills, Inc., Winona, Minn.

Twin City Textile Mills Waste Co., St. Paul, Minn.

National Waste Company, New York, N. Y.
O'Neill Brothers, Inc., Philadelphia, Pa.
The Pittsburgh Waste Co., Inc., Swissvale, Pa.
Riverside Mills, Augusta, Ga.
Royal Manufacturing Company, Perth Amboy, N. J.
Southland Manufacturing Co., Inc., Norfolk, Va.

Freight Operating Statistics of Large Railways—Selected Items

Region, Road and Year	Miles of road operated	Locomotive Miles			Car Miles		Ton-miles (Thousands)			Road-loco. on lines		
		Train miles	Principal helper	Light	Loaded (hours)	Per cent loaded	Gross rev. and exc. locos. & tenders non-rev.	Net rev.	Servicable	Unstored stored	B.O.	Per cent B.O.
Boston & Maine.....	1,561	220,907	225,974	9,170	9,080	68.0	591,350	251,748	65	4	5.8	
1955	1,564	243,816	249,043	9,195	9,673	67.3	619,840	261,714	67	1	1.4	
N. Y., N. H. & Hfd.....	1,740	249,889	249,889	20,068	11,263	69.3	702,168	297,344	89	9	9.2	
1955	1,746	294,630	294,634	23,054	11,744	66.9	726,708	293,647	101	8	7.3	
Delaware & Hudson.....	771	176,902	181,786	5,940	9,736	72.5	664,339	355,232	36	4	10.9	
1955	792	177,831	183,006	6,092	9,743	72.7	662,777	358,363	38	2	5.0	
Del., Lack. & Western.....	962	287,388	296,583	23,738	13,175	70.8	857,911	387,990	62	1	1.6	
1955	962	280,588	291,664	18,507	12,915	72.4	820,986	377,079	63	2	3.1	
Erie.....	2,207	602,412	607,786	21,388	33,912	69.7	2,092,928	852,618	171	1	.6	
1955	2,224	576,933	579,431	18,671	32,409	70.1	1,798,685	808,436	166	2	1.2	
Grand Trunk Western.....	951	254,762	262,495	1,917	7,721	61.0	559,718	238,659	58	17	22.7	
1955	952	251,177	255,694	2,148	8,053	58.8	587,598	235,297	58	15	20.5	
Lehigh Valley.....	1,135	229,153	231,997	6,085	10,852	66.4	758,687	359,838	32	2	5.9	
1955	1,138	220,971	223,873	8,020	11,213	67.5	784,433	375,156	34	1	2.9	
New York Central.....	10,565	224,997	225,920	99,124	96,689	63.0	6,965,322	3,221,498	466	18	69	12.6
1955	10,661	2,518,135	2,550,459	103,819	101,174	61.7	7,507,310	3,265,116	573	8	111	16.1
New York, Chic. & St. L.....	2,154	711,448	736,017	8,764	31,440	67.4	2,180,655	1,029,063	182	3	8.3	
1955	2,154	730,805	749,623	6,328	31,339	67.7	2,174,544	1,000,100	172	5	19	9.7
Pitts. & Lake Erie.....	221	63,722	63,722	...	2,971	68.0	255,347	160,321	13	..	..
1955	221	69,599	69,599	...	3,193	70.9	269,231	170,101	13	..	..
Wabash.....	2,381	506,310	509,339	5,765	22,952	67.6	1,502,359	608,299	108	..	3	2.7
1955	2,381	542,981	544,277	6,263	25,065	66.6	1,618,940	627,392	103	1	1.0	
Baltimore & Ohio.....	5,910	1,590,571	1,776,436	163,465	65,223	61.2	5,304,240	2,685,380	481	20	78	13.5
1955	6,072	1,626,860	1,797,196	172,710	65,412	61.9	5,165,942	2,575,166	452	6	89	16.3
Bessemer & Lake Erie.....	208	54,025	57,315	133	2,731	60.6	321,520	207,652	16	..	..
1955	208	60,412	65,692	232	3,496	59.7	424,796	277,128	16	..	..
Central RR Co. of New Jersey.....	612	128,561	129,753	6,375	5,173	67.2	390,826	210,436	65	..	..	3.9
1955	613	124,042	125,037	6,562	4,831	68.5	358,852	193,106	68	..	..
Chicago & Eastern Ill.....	868	115,209	115,209	2,520	5,336	68.1	388,553	197,923	25	..	..	10.7
1955	868	116,937	116,937	2,390	5,020	69.1	352,840	175,396	25	..	..	10.7
Elgin, Joliet & Eastern.....	236	92,717	93,582	...	3,047	64.9	248,272	137,248	38	..	..
1955	236	87,097	87,367	...	2,809	65.2	225,814	123,691	35	..	..
Pennsylvania System.....	9,892	3,011,384	3,231,834	255,339	133,967	68.8	9,647,025	4,846,728	883	1	323	26.8
1955	9,892	3,098,727	3,335,565	253,961	133,896	66.6	9,587,111	4,599,717	884	11	416	31.7
Reading.....	1,303	351,129	353,657	11,754	14,065	66.6	1,130,070	625,308	162	7	20	10.6
1955	1,303	334,392	337,004	11,451	13,168	67.7	1,027,481	562,645	158	1	39	19.7
Western Maryland.....	846	169,259	177,425	11,375	7,067	66.8	590,242	344,766	41	..	..
1955	846	167,467	174,456	10,292	6,879	65.6	567,521	326,053	36	..	..
Chesapeake & Ohio.....	5,067	1,546,729	1,570,302	47,015	69,887	57.1	6,266,528	3,552,928	533	26	88	13.6
1955	5,046	1,521,768	1,557,128	47,657	68,836	56.9	5,963,422	3,410,737	419	7	111	20.7
Norfolk & Western.....	2,110	735,566	759,543	69,405	37,739	59.2	5,373,968	2,001,837	219	5	21	8.6
1955	2,104	731,111	736,707	68,500	36,715	59.5	3,395,373	1,882,721	224	12	19	7.5
Atlantic Coast Line.....	5,283	766,676	766,676	8,294	23,620	60.4	1,780,517	823,075	168	7	115	26.3
1955	5,278	745,965	745,965	8,130	23,172	62.7	1,654,714	782,332	233	8	13	
Central of Georgia.....	1,731	193,300	193,789	2,186	7,885	67.5	533,212	269,782	78	..	3	3.7
1955	1,731	184,020	184,054	1,636	7,675	68.5	532,008	260,269	74	..	5	6.3
Gulf, Mobile & Ohio.....	2,717	271,115	271,115	238	15,284	71.2	1,079,226	528,905	83	..	8	8.8
1955	2,717	265,155	265,155	306	15,847	72.4	1,044,946	510,715	86	..	5	5.5
Illinois Central.....	6,588	11,70,419	11,72,499	33,573	50,982	63.5	3,714,446	1,779,035	316	7	205	26.3
1955	6,531	12,39,660	12,40,431	27,924	52,430	64.6	3,904,470	1,819,867	319	30	205	37.0
Louisville & Nashville.....	4,714	865,675	870,952	15,076	33,564	63.4	2,952,581	1,311,380	375	21	11	5.3
1955	4,715	907,441	924,004	18,667	34,279	63.1	3,591,927	1,343,773	185	15	11	5.2
Nash., Chatt. & St. Louis.....	1,043	164,050	167,512	3,229	5,640	71.1	367,028	176,635	49	..	4	7.5
1955	1,043	166,929	170,126	3,709	5,530	68.0	357,916	172,672	46	7	132	
Seaboard Air Line.....	4,051	573,304	573,304	486	2,269	67.3	1,596,466	760,341	136	9	6.2	
1955	4,053	566,040	566,040	1,010	2,284	64.5	1,634,282	775,275	139	5	3.5	
Southern.....	6,259	868,890	868,950	11,837	42,427	68.9	2,769,271	1,301,721	188	5	6	3.0
1955	6,264	903,714	903,784	12,788	43,529	69.7	2,785,926	1,266,733	271	3	3	1.1
Chicago & North Western.....	7,760	679,188	680,061	7,000	31,221	66.9	2,193,566	936,630	148	8	5.0	
1955	7,805	773,369	775,540	10,401	35,514	66.3	2,432,566	1,065,420	158	9	29	14.8
Chicago Great Western.....	1,437	133,002	133,002	196	8,224	72.3	546,749	346,749	31	1	3.1	
1955	1,437	134,110	134,110	222	8,145	68.0	546,948	247,856	31	..	6.1	
Chic., Milw., St. P. & Pac.....	10,621	1,058,310	1,076,976	19,102	48,758	63.6	3,359,735	1,475,295	290	..	15	4.3
1955	10,633	1,124,191	1,144,845	23,514	50,258	63.9	3,500,222	1,573,403	295	..	27	7.6
Chic., St. P., Minn. & Omaha.....	1,606	151,645	151,645	4,329	5,462	69.3	375,428	173,694	35	4	4.9	
1955	1,606	164,632	166,157	5,225	5,921	67.3	410,722	182,798	62	..	14	18.4
Duluth, Missabe & Iron Range.....	569	153,854	154,807	2,132	7,547	50.1	767,585	463,453	60	..	12	16.7
1955	569	177,954	178,667	1,381	8,294	51.5	881,765	537,318	65	..	9.7	
Great Northern.....	8,274	1,280,892	1,285,858	39,417	53,445	64.4	4,091,733	2,055,909	284	29	12	3.7
1955	8,270	1,295,128	1,303,125	45,352	51,980	66.2	3,985,796	2,058,487	287	52	28	7.6
Minneapolis, St. P. & St. Louis.....	4,171	406,955	408,674	1,719	15,622	64.7	1,106,610	526,239	83	..	6	6.6
1955	4,171	420,425	423,017	3,262	16,265	64.3	1,093,653	526,738	82	3	3	3.2
Northern Pacific.....	6,569	880,424	895,848	24,616	38,759	67.2	2,666,373	1,223,895	273	31	28	8.4
1955	6,570	943,893	961,894	24,545	41,006	67.5	2,853,777	1,309,096	283	32	56	15.3
Ath., Top. & S. Fe (incl. G. C. & S. F. & P. & S. F.).....	13,124	2,297,011	2,403,895	46,393	109,902	67.9	7,225,009	3,899,414	556	48	57	8.6
1955	2,356,094	2,466,661	46,353	108,452	66.7	7,201,999	2,836,524	519	59	30	4.7	
Chic., Burl. & Quincy.....	746	98,972	98,972	18	4,615	66.7	3,544,021	1,557,218	193	21	22	11.9
1955	753	100,839	100,839	166	4,598	66.7	3,537,655	1,534,993	228	16	21	10.0
Mo.-Kan.-Tex. Lines.....	3,230	326,285	326,285	3,793	14,316	64.5	927,041	395,319	80	..	..
1955	3,230	330,013	330,013	3,273	14,355	64.5	924,413	398,188	85	..	..
Missouri Pacific.....	9,701	1,169,9										

For the month of September 1956 Compared with September 1955

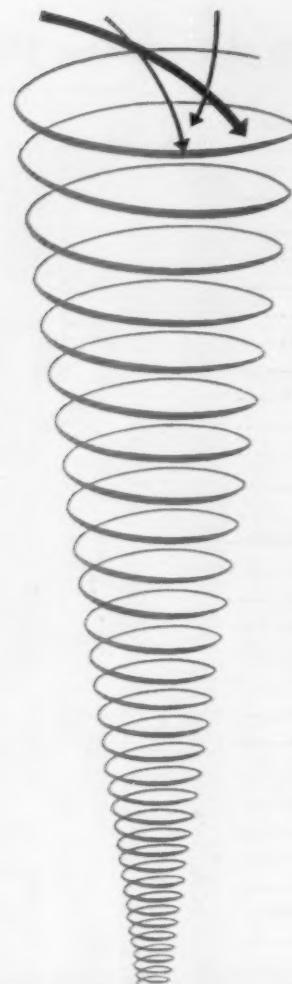
Region, Road and Year		Freight cars on line			G.t.m per train-mi.		Net ton-mi.		Net ton-mi.		Car-miles		Net ton-mi.		Train-miles per loco. per day	
		Home	Foreign	Total	Per Cent	tenders	tenders	train-mi.	per car-mile	car-day	per car-day	train-mile	per car-day	train-mile	per car-day	train-hour
New Eng.	Boston & Maine.....	1,541	8,936	10,477	2.3	39,492	2,688	1,144	27.7	828	43.9	5,376	14.8	130.2	16.9	162.4
	N. Y., N. H. & Hfd.....	1,913	8,616	10,529	4.1	37,464	2,548	1,076	27.1	773	42.5	5,578	14.7	136.6	15.3	117.1
Delaware & Hudson.....	2,092	15,591	17,683	3.0	43,131	2,810	1,190	26.4	579	31.7	5,696	15.3	118.3	15.4	118.3	
	1,825	18,471	20,296	2.0	38,069	2,467	1,093	25.2	453	26.9	5,644	15.4	118.3	15.4	118.3	
Del., Lack. & Western.....	1,492	6,148	7,640	5.7	64,287	3,774	2,018	36.5	1,452	54.9	15,358	17.1	166.1	16.9	162.4	
	3,213	5,378	8,691	3.8	62,960	3,745	2,025	36.8	1,449	54.2	15,083	17.3	168.6	16.6	168.6	
Erie.....	3,363	11,754	15,117	2.5	51,529	3,037	1,373	29.4	838	40.1	13,444	17.3	188.2	16.6	188.2	
	3,786	12,371	16,157	2.9	46,284	2,986	1,371	29.2	750	35.5	13,086	17.3	184.9	16.6	184.9	
Grand Trunk Western.....	5,673	21,273	26,946	2.5	69,126	3,514	1,431	25.1	1,114	63.6	12,877	19.9	134.9	18.2	134.9	
	7,106	20,765	27,891	4.1	62,532	3,469	1,414	24.9	979	56.0	12,117	18.2	134.4	17.5	134.4	
Lehigh Valley.....	3,829	9,000	12,820	6.9	49,184	2,219	946	30.9	625	33.2	8,365	22.4	125.4	21.1	128.0	
	4,219	9,764	13,983	10.4	49,378	2,364	947	29.2	553	32.2	8,239	21.1	128.0	21.1	128.0	
Wabash.....	4,590	9,773	14,363	4.1	68,978	3,373	1,690	33.2	846	38.4	10,568	20.8	244.1	19.6	244.1	
	7,052	9,873	17,925	2.3	69,560	3,640	1,741	33.2	736	32.9	10,989	19.6	241.2	19.6	241.2	
New York Central.....	48,858	92,491	141,349	9.6	51,845	3,196	1,483	33.4	742	35.3	10,196	16.8	155.6	15.5	155.6	
	51,429	95,491	146,920	4.5	49,513	3,033	1,319	32.3	721	36.2	10,209	16.6	143.5	15.5	143.5	
New York, Chic. & St. L.....	5,994	20,256	26,250	5.3	50,701	3,153	1,488	32.7	1,292	58.6	15,925	16.5	133.4	15.5	133.4	
	6,007	18,796	24,803	6.7	51,993	3,043	1,400	31.9	1,338	62.0	15,477	17.5	138.0	16.5	138.0	
Pitts. & Lake Erie.....	2,030	9,548	12,578	4.9	59,927	4,441	2,537	54.0	457	11.8	24,181	15.0	165.5	15.0	165.5	
	2,644	10,068	12,712	3.9	61,665	2,466	2,466	44.6	466	11.8	25,656	15.9	180.6	15.9	180.6	
Wabash.....	6,730	10,736	19,466	4.9	64,302	2,981	1,207	26.5	1,047	58.5	8,516	21.7	162.8	21.1	162.8	
	8,673	10,778	19,451	6.7	62,972	2,991	1,159	25.0	1,078	54.6	8,783	21.1	188.6	21.1	188.6	
Baltimore & Ohio.....	47,433	53,484	100,917	5.9	52,007	3,402	1,723	41.2	874	33.1	15,146	15.6	118.8	15.5	125.3	
	42,805	45,411	88,216	9.6	49,167	3,228	1,609	39.4	977	38.2	14,137	15.5	125.3	15.5	125.3	
Bessemer & Lake Erie.....	3,687	1,444	5,131	7.8	99,696	6,129	3,958	76.0	1,291	28.0	33,278	16.8	137.1	16.6	137.1	
	2,740	1,423	4,163	17.2	106,413	4,177	4,682	79.3	2,100	44.3	44,412	15.5	154.2	15.5	154.2	
Central RR Co. of New Jersey.....	2,911	10,689	13,609	6.7	42,476	3,170	1,707	40.7	527	19.3	11,462	14.9	94.6	14.9	94.6	
	2,451	10,565	13,016	7.8	39,482	3,023	1,627	40.0	497	18.1	10,500	13.6	92.9	13.6	92.9	
Chicago & Eastern Ill.....	2,081	4,056	6,137	8.7	54,610	3,389	1,726	37.1	1,129	44.7	7,601	16.2	145.4	15.2	145.4	
	2,563	3,298	5,861	6.5	48,110	3,029	1,506	34.9	1,004	41.6	6,736	15.9	152.1	15.9	152.1	
Elgin, Joliet & Eastern.....	5,902	9,473	15,375	4.8	21,794	2,896	1,551	45.0	303	10.4	19,385	8.1	191.7	8.1	191.7	
	6,690	8,256	14,946	5.4	20,981	2,720	1,499	44.0	266	9.3	17,470	8.1	196.0	8.1	196.0	
Pennsylvania System.....	103,562	90,537	194,099	6.4	51,130	3,298	1,657	36.4	833	33.2	16,332	16.9	104.9	16.9	104.9	
	97,241	99,289	196,530	9.3	52,565	3,191	1,531	34.4	774	41.1	15,500	17.1	99.7	17.1	99.7	
Reading.....	9,588	23,731	33,319	3.8	50,759	3,210	1,781	44.5	634	21.4	15,997	15.2	77.6	15.2	77.6	
	10,911	20,895	31,806	4.1	47,417	3,073	1,683	42.7	607	21.0	14,394	15.4	168.3	15.4	168.3	
Western Maryland.....	3,156	4,701	7,857	3.9	51,936	3,582	2,092	48.8	1,453	44.6	13,584	14.7	188.5	14.7	188.5	
	4,035	4,726	8,761	4.8	48,066	3,436	1,974	47.4	1,173	37.7	12,847	14.2	14.2	14.2	14.2	
Potomac Region	Chesapeake & Ohio.....	46,140	33,950	80,100	0.9	77,097	4,083	2,315	50.8	1,455	50.1	21,373	19.0	91.7	19.0	91.7
	47,025	37,906	84,931	2.1	73,081	3,944	2,256	49.5	1,353	48.0	22,531	18.6	109.9	18.6	109.9	
Norfolk & Western.....	30,972	10,081	41,053	8.8	84,661	4,977	2,788	53.0	1,577	50.2	31,625	17.4	126.8	17.4	126.8	
	30,085	10,559	40,644	1.5	78,971	4,776	2,648	51.3	1,575	51.6	29,828	17.0	120.3	17.0	120.3	
Southern Region	Atlantic Coast Line.....	16,821	18,223	35,244	4.5	45,450	2,332	1,078	34.8	782	37.2	5,193	19.6	158.3	19.6	158.3
	17,345	17,084	34,269	4.1	42,673	2,227	1,053	33.8	776	36.7	4,961	19.2	114.8	19.2	114.8	
Central of Georgia.....	2,273	7,462	9,701	2.8	49,161	2,057	1,983	34.4	942	40.5	5,195	17.2	89.9	17.2	89.9	
	2,272	7,189	9,916	3.2	48,041	2,095	1,421	33.9	886	38.2	5,012	16.6	88.7	16.6	88.7	
Gulf, Mobile & Ohio.....	4,461	11,194	15,655	6.4	74,988	3,985	1,952	33.3	1,133	47.8	6,489	18.8	108.7	18.8	108.7	
	4,696	9,925	14,621	3.3	74,511	3,945	1,928	32.2	1,176	50.4	6,266	18.9	105.6	18.9	105.6	
Illinois Central.....	21,842	27,974	49,816	2.1	52,784	3,214	1,539	34.9	1,296	53.7	9,119	16.6	100.3	16.6	100.3	
	23,443	32,658	56,101	2.0	49,696	3,110	1,488	34.7	1,132	50.5	9,288	16.2	83.6	16.2	83.6	
Louisville & Nashville.....	21,761	27,653	57,325	3.9	51,728	2,924	1,518	39.1	1,135	54.8	9,273	17.7	155.1	17.7	155.1	
	22,003	34,323	47,421	7.454	50.9	42,333	2,241	1,078	31.3	791	35.2	5,645	18.9	119.5	18.9	119.5
Nash., Chatt. & St. Louis.....	3,216	3,378	6,694	5.3	40,645	2,148	1,056	31.2	820	36.5	5,518	19.0	129.4	19.0	129.4	
	3,216	3,378	6,694	5.3	40,645	2,148	1,056	31.2	820	36.5	5,518	19.0	129.4	19.0	129.4	
Seaboard Air Line.....	11,025	16,599	27,624	2.3	51,391	2,828	1,347	34.1	928	42.3	6,256	18.5	154.1	18.5	154.1	
	11,725	16,267	27,992	2.5	52,112	2,929	1,389	33.9	964	44.0	6,376	18.0	158.7	18.0	158.7	
Southerns.....	14,751	24,438	39,189	4.0	49,384	3,196	1,307	30.7	1,092	51.7	6,933	17.1	161.7	17.1	161.7	
	14,386	27,134	41,520	3.5	52,367	3,094	1,391	31.9	1,108	50.6	6,900	17.6	122.3	17.6	122.3	
Northwestern Region	Chicago & North Western.....	16,148	33,240	49,388	4.5	53,349	3,287	1,603	30.9	639	31.8	4,023	16.5	157.0	16.5	157.0
	16,601	31,123	47,724	3.5	59,793	3,266	1,604	30.9	730	36.7	4,561	17.7	150.9	17.7	150.9	
Chicago Great Western.....	1,576	4,763	6,339	3.8	78,219	4,118	1,981	32.0	1,426	61.7	11,462	19.0	144.7	19.0	144.7	
	1,595	4,436	5,805	3.3	76,883	4,086	1,952	30.4	1,413	63.8	5,749	18.9	141.2	18.9	141.2	
Chic., Milw., St. P. & Pac.....	28,064	35,339	63,463	6.7	60,093	3,185	1,999	30.3	748	38.9	6,430	18.9	130.5	18.9	130.5	
	28,134	36,794	64,928	5.4	58,055	3,185	1,965	31.3	817	40.8	6,932					

Here's real progress in reducing diesel wear!

There are many good air cleaners for diesel engines on the market today—oil bath, impingement types, Rotonamic, and others. Each is capable of doing an excellent job, but many fail—why?

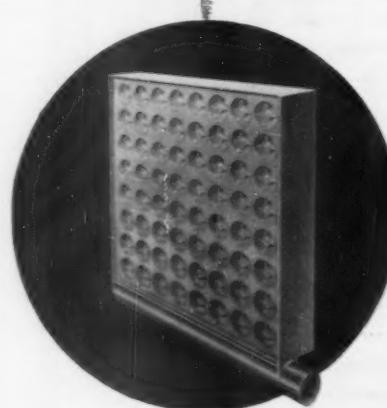
The answer is simple—maintenance.

No filter will perform properly unless the manufacturer's instructions are followed. Unfortunately, maintenance on many types is difficult and it is hard to determine if it has been performed properly, until the damage is done.



Not so with the FARR Rotonamic Air Cleaner. Here is the air cleaner designed to function virtually without maintenance...under every operating condition. Rotonamics have performed over 700,000 miles with minimum attention. And you can tell visually and instantly the condition of the ROTONAMICS.

These are some of the reasons why major railroads have applied FARR Rotonamic Air Cleaners on over 3,000 of their diesel units ...and more are being added each day during routine maintenance or annual shopping. Manufacturers offer ROTONAMIC as standard or optional equipment.



Rotonamic's
tangible savings
make it a "must"
for you to
investigate.
Write for
complete catalog
information.

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Manufacturing Licensees:
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TYPE F ENTERLOCKING COUPLER
and ATTACHMENTS
plus
Buckeye DEPENDABILITY

COUPLER F-70

YOKE Y-45

FOLLOWER Y-46

STRIKING CASTING
with precompressed
flexible coupler carrier

... adds up to longer,
trouble-free service!

- New Safety Shelf—to support mated coupler in event of pullout.
- Interlocking—Guard arm and aligning wings similar to type H Coupler.
- Reduced free slack.
- Improved positive anti-creep.
- Easier operation.
- Increased strength.
- Reduced wear.
- Coupler, Yoke, Follower, and Striker interchangeable as a group with present standards.

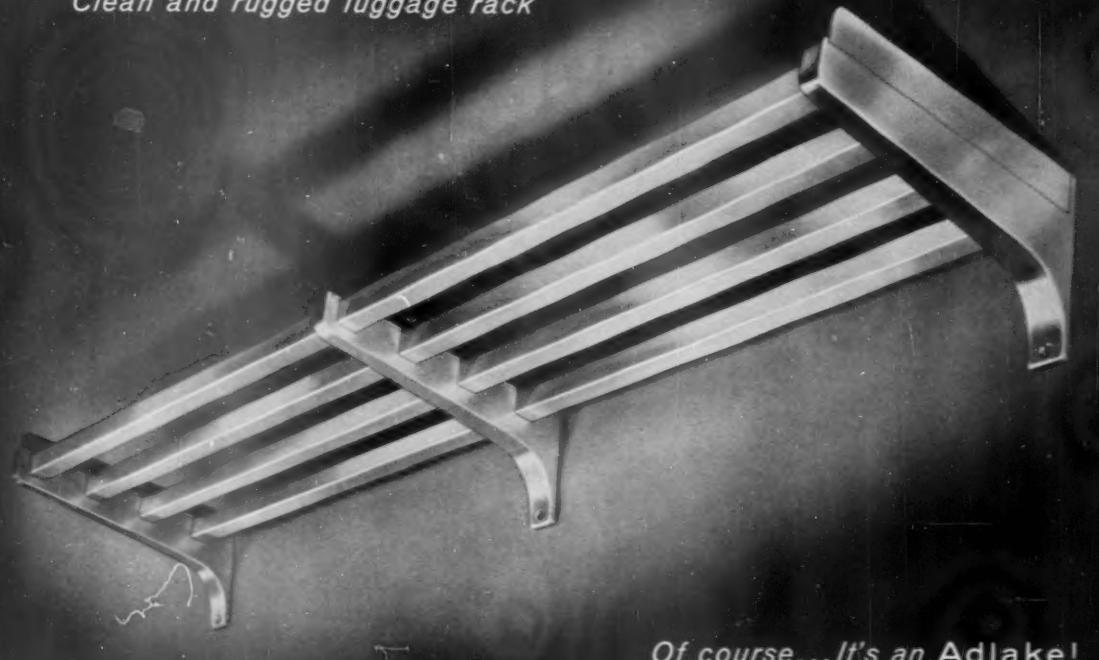
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Refer Adm. No. 11878

Ask for Bulletin No 202..



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Clean and rugged luggage rack



Of course...It's an Adlake!

Have you ever seen a smarter looking or more functional luggage rack than this classic design? It's of extruded aluminum, strongly built and good for decades of service.

One look, and you know how well it harmonizes with current railroad coach design, stressing simplicity of line. And it's sturdy, carries loads safely and takes abuse. No wonder Adlake Luggage Racks are the choice of railroads all over America!

For information or assistance in your luggage rack problems, and for facts about Adlake hardware for your cars, write us at 1150 N. Michigan, Elkhart, Indiana.

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IN JUST ELEVEN MONTHS OF 1956...

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HAVE BEEN EQUIPPED WITH SMOOTHER, EASIER-RIDING

BARBER STABILIZED TRUCKS

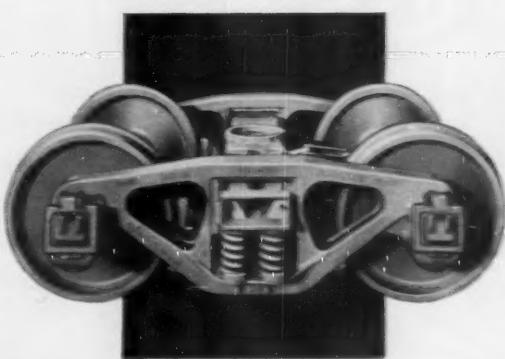
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RAILROADS AND PRIVATE CAR LINES OF
THE UNITED STATES AND CANADA

*They cost so little... give
so much protection...*

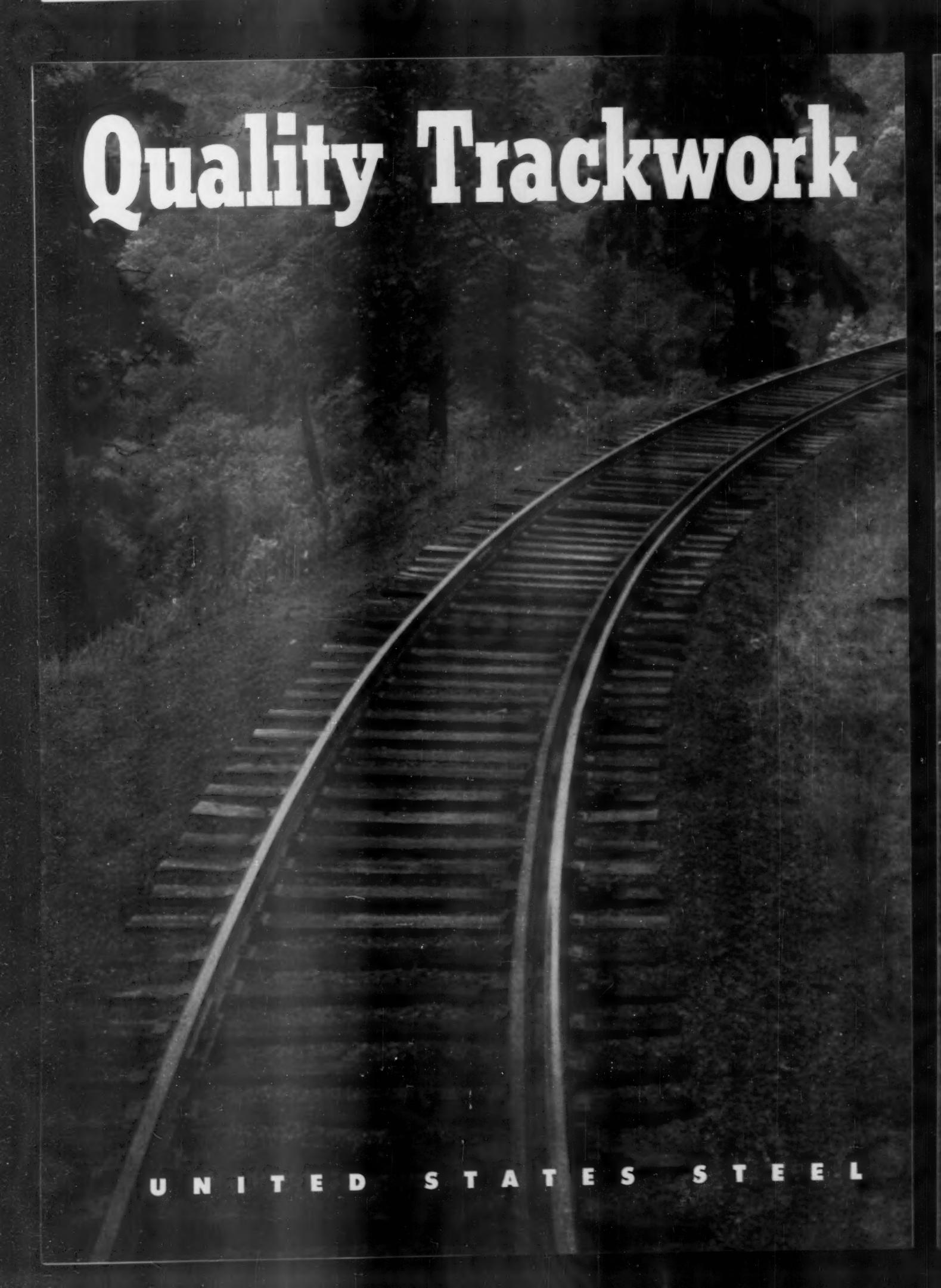
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STABILIZED TRUCKS

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Over 200 USS Taylor Adjustable Rail Braces were installed on two of the sharpest, steepest curves of the Western Maryland Railway to prevent the inside rail from turning out or breaking under pressure of traffic, which it had been doing. Both curves, one of which is shown here, are in excess of 25 degrees, and both are on almost a three per cent grade, located approximately 70 miles west of Elkins, West Virginia.

Mr. S. W. George, Division Engineer of Elkins Division, shown examining one of the Taylor Rail



Braces, says that this installation was made in an effort to eliminate the problem and to reduce maintenance on these two curves to an absolute minimum. So far, service has been very satisfactory.

The USS Taylor Adjustable Rail Brace is specifically designed to take the repeated thrust of heavy, fast traffic without loosening—maintaining track gage and alignment at all times. Quickly installed, it rarely needs adjustment, and gives long, rugged service at low cost.

All USS Quality Trackwork products possess an inherent strength that gives them longer life and results in greatly reduced maintenance. The extra care and effort that go into the manufacture of rail braces, switches, frogs and special track layouts make USS Quality Trackwork the finest you can buy. Specify USS Quality Trackwork for all your requirements.

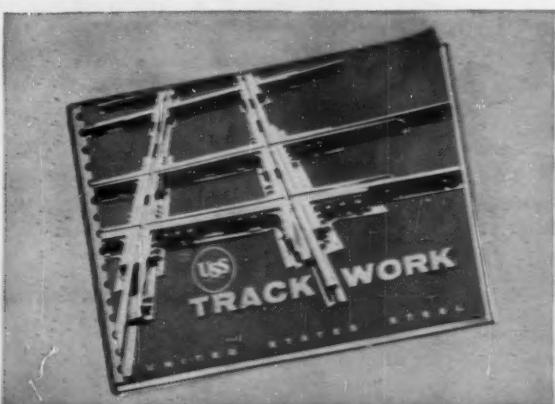
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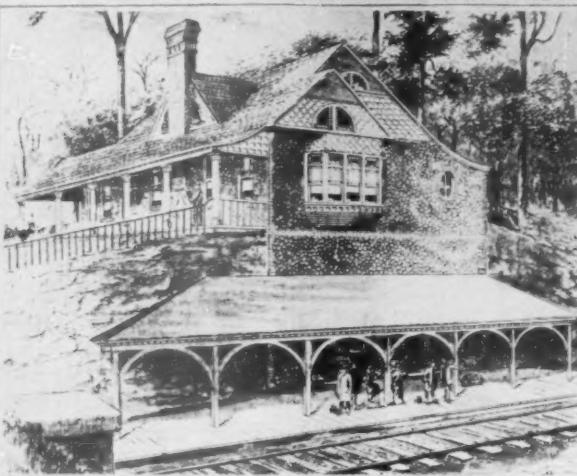
NAME

COMPANY

ADDRESS

CITY STATE

APRIL 29, 1887



NEW STATION UTILIZES ELECTRICAL DEVICES

NEW YORK, Apr. 29, 1887

The obvious criticism of the new Glen Ridge station is the placing of the agent at the end of the building farthest from the track, where he cannot have visual notice of approaching trains; done, evidently for the comfort and pleasure of waiting passengers, affording them an airy room, with a romantic prospect from the bay window overhanging the cut.

But with the simple and inexpensive electrical devices now so common this objection is largely obviated. Electrical annunciators are a great convenience at any station, and should be provided even where the agent has a good outlook; and where he does not have it they are doubly necessary.

The engraving of the station gives the correct idea of its outlines but black and white lines are hardly adequate.

The romance of electricity and railroads started slowly—then grew in a rush. A single decade bridged the use of “simple and inexpensive” electrical devices to the introduction of major railroad power, lighting and control installations. And with each innovation Graybar was there—analyzing and helping to solve the electrical problems that are also railroad problems.

Sixty-five members of the Graybar sales staff specialize in railroad needs today. In communications, for instance, they'll be glad to work with you in the solution of any out-of-the-ordinary problem and furnish—without obligation—detailed installation recommendations, prices, specifications and such other data as you may require. And you can rely on the same experienced Graybar service in the fields of lighting, ventilation, power apparatus, control equipment and tools.

The address of your nearby Graybar Railroad representative is listed in your Railroad Pocket List. He'll be glad to oblige whenever you need assistance.

100,000 electrical items are distributed throughout the nation...



GRAYBAR ELECTRIC COMPANY, 420 LEXINGTON AVENUE, NEW YORK 17, N. Y.
OFFICES AND WAREHOUSES IN OVER 130 PRINCIPAL CITIES

(Continued from page 42)

district freight agent, Palmetto, Fla., succeeding **A. J. Mitchell**, transferred to Greenville, S.C., to replace the late **H. S. Williams**.

SOO LINE.—**D. C. Simpson**, general agent, New York, appointed manager Rail-Van Service, succeeding **K. H. Peterson**, promoted. **J. G. Quick** succeeds Mr. Simpson.

TEXAS & NEW ORLEANS.—**F. B. Rice**, master mechanic, Houston division and Houston Terminal, has assumed the additional duties of master mechanic, Dallas and Austin divisions, with headquarters at Ennis, Tex., and Houston.

UNION PACIFIC.—**R. A. Howland** appointed general agent, Yakima, Wash.

OBITUARY

Thomas T. Railey, 71, general solicitor of the **Missouri Pacific**, St. Louis, died December 3.

John J. O'Malley, 57, auditor of the **Pullman Company**, died November 28 at Chicago.

Supply Trade

Paul V. Rebel, Jr., railroad specialist for **Turco Products, Inc.**, in the Buffalo-Cleveland area, has been appointed manager of the Cleveland sales district.

E. S. McCormick, special railroad sales representative of **Koehring Company**, has been named general sales manager for the Buffalo-Springfield Roller division, which was recently merged into the Koehring organization.

National Malleable & Steel Castings Co. has appointed **Frank K. Mitchell** as consultant and **Walter W. Matzke** as assistant manager, technical services, railway division. Mr. Mitchell was formerly assistant vice-president, equipment, New York Central. Mr. Matzke, formerly assistant superintendent motive power, Chicago & North Western, is currently in Thailand, assisting the government railway in its modernization program.

Stewart J. Hayes, of **Ross F. Hayes Company**, New York, has been appointed eastern sales agent for **R. E. Russell & Co.** He will be responsible for the sale of Russell piggyback bridges, wheel chocks, and tie-down equipment for trailer-on-flat-car service in New England and Middle Atlantic states.

Effective January 1, **Frank F. Elliott** will become chairman of the board of **Crane Company** and will be succeeded as president by **Neese E. Stearns**, currently vice-president for planning and development of **Inland Steel Company**.

Stuart H. Smith, general sales manager of **S K F Industries, Inc.**, has been elected vice-president, sales.

OBITUARY

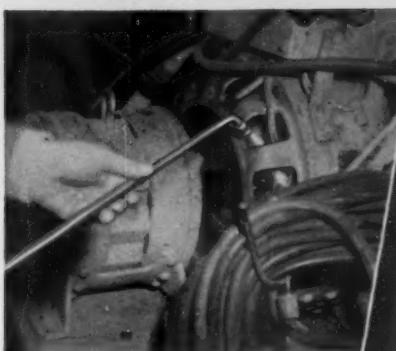
F. W. Lewis, engineering assistant to president, **Chicago Railway Equipment Company**, died November 13 at Chicago.



Cleaning trucks, journals and outer surfaces.



Spray cleaning diesel engines.



Cleaning electrical parts.



Removing grit and dirt from filters.



Cleaning upholstery, carpeting, interiors.

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Gentlemen: Please send me information on:

- Dearborn Cleaners and Detergents
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- Have a Dearborn Railroad Engineer call

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Railroad.....

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City..... Zone..... State.....





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Liquid level—vapor action—types of linings—temperature factors—the presence of impurities . . . these are a few of the considerations which the chemist must evaluate. It's the chemist's job to see that bulk liquids are shipped in the cars equipped to carry his products. The knowledge gained from years of hauling liquids in bulk enables General American to meet the chemist's exacting requirements—to assure that corrosion of the cars will be minimized and product contamination prevented.

This skill and experience is part of every GATX lease . . . a lease that provides shippers with the most dependable service available for bulk liquid transportation. When you lease cars from General American, you avoid the need for capital investment as well as operating, servicing and maintenance problems.

If you'd like additional information concerning the advantages of a GATX lease, call or write your nearby General American District Office.

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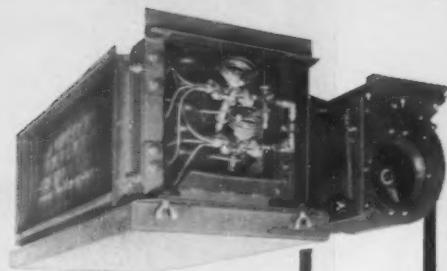
A complete **AIR CONDITIONING SYSTEM**... by "SAFETY" ... including

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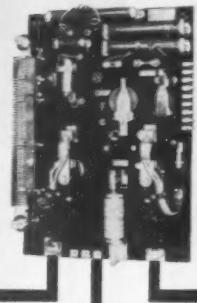
assures the railroad of "Safety's" undivided responsibility for the proper performance of the entire air conditioning system.

In addition to standard Air Conditioning equipment, **SAFETY INDUSTRIES** has a complete line of ceiling and package-type air conditioners designed for special types of cars and conditions. May we send further information?

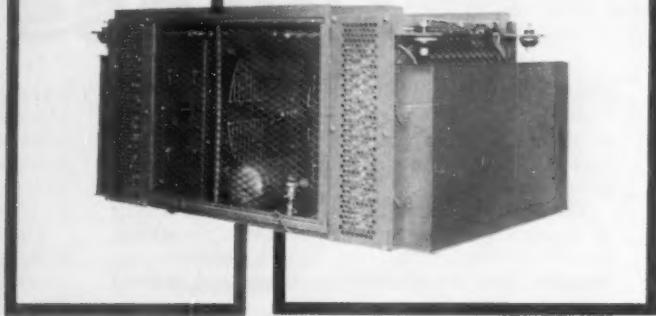
"SAFETY"
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Cradled safely in

STAINLESS STEEL

Picture the visions of sugar plums dancing through those heads! And they'll sleep soundly and safely all the way to grandmother's thanks—in large measure—to the comfort and luxury of today's advance-style railroad cars.

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For railroad men know, from experience, how

many problems are eliminated by stainless steel. Maintenance is easier, less costly... corrosion is ruled out... design and structural elements can be combined in a single member... dead weight and bulk are reduced... operating efficiency is improved all around.

That's why we say, again—*Make it better, make it stainless!* Stainless steel is the versatile, look-ahead metal for passenger cars. Your supplier can give you the full story—an outline of the many specific savings realizable with stainless steel.



VANADIUM CORPORATION OF AMERICA

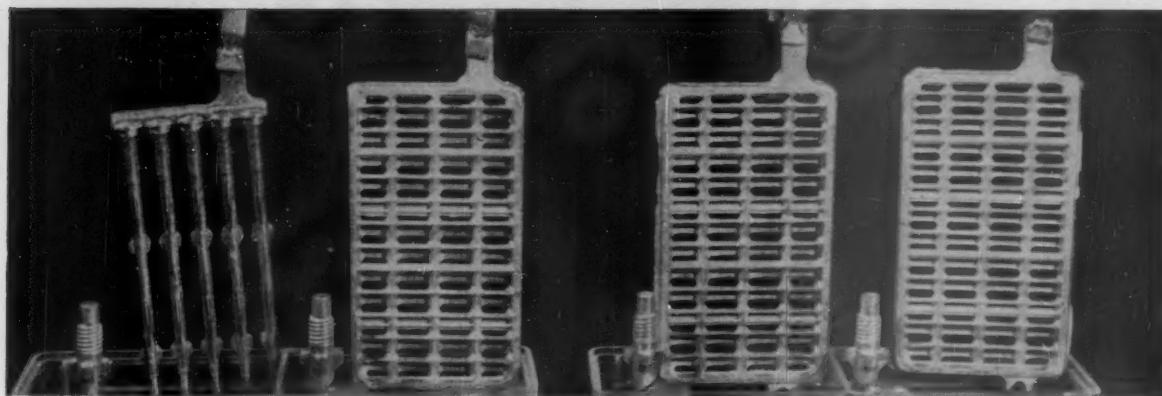
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Producers of alloys,
 metals and chemicals

EXIDE-IRONCLAD BATTERIES

For railway diesel starting

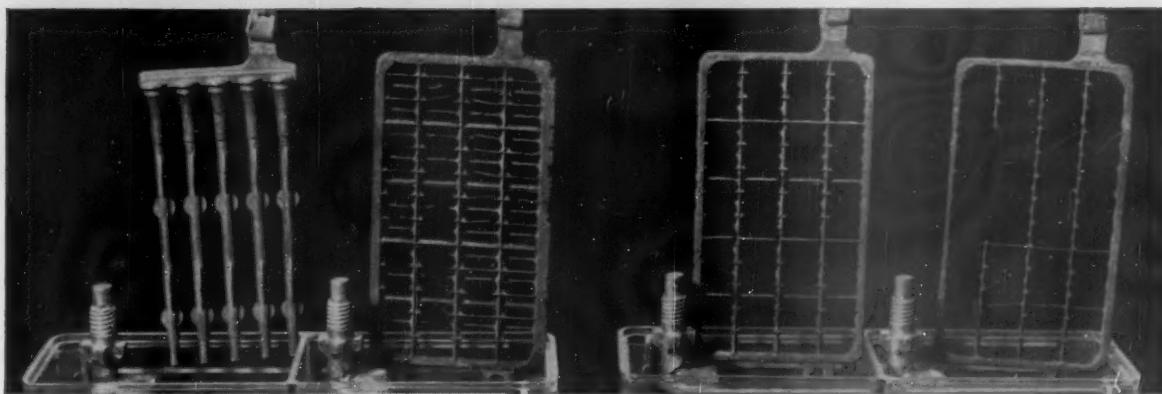


BEFORE: Silvium alloy

Alloy "A"

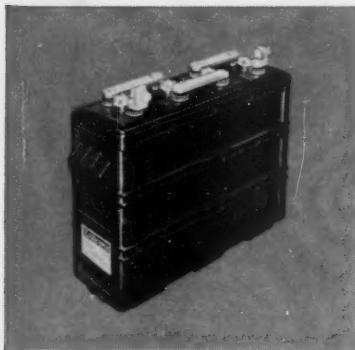
Alloy "B"

Alloy "C"



AFTER: Note how the Silvium grid resisted corrosion. Compare it with the other alloys.

Corrosion resistant SILVIUM prolongs battery life



BATTERY FOR RAILWAY DIESEL STARTING. Model MV-D. Its tubular construction provides for extra reservoirs of electrolyte adjacent to positive plate. Battery better able to supply sudden heavy power drafts to turn over starting motors. Extra heavy connectors offer minimum resistance to heavy currents. Write for Bulletin 5348.



Reaching down deep into every Exide-Ironclad Battery are the fingers of Silvium alloy metal which form the grids of the famous Exide-Ironclad positive plates.

Silvium is a special alloy developed by Exide to resist corrosion and thus prolong battery life. For proof, Exide research engineers compared the performance of an Ironclad Silvium grid side by side with ordinary grids of other lead alloys. As the photographs above show, only Silvium came through the test without damaging corrosion—undiminished in size, unimpaired in strength. The other grids showed from moderate to severe corrosion.

Tests have proved that Silvium is not only more resistant to corrosion, but also a better conductor of electricity.

Hence it both prolongs battery life and—because there's less internal battery resistance—more readily permits heavy drafts of power.

This special material is only one of the many exclusive features which have made Exide-Ironclad Batteries world famous for high capacity and long life. When you order batteries for heavy duty applications, or the equipment requiring such batteries, be sure to specify Exide-Ironclad. Write for detailed bulletin. Exide Industrial Division, The Electric Storage Battery Company, Phila. 2, Pa.

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Pressure treated for
Strength that lasts!

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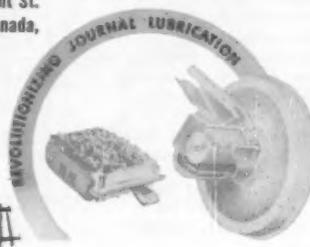
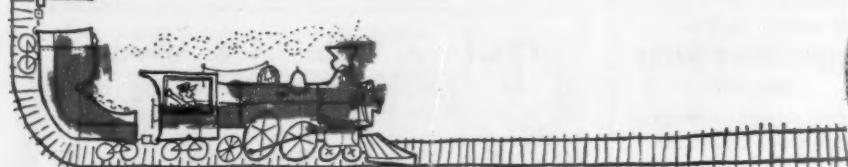


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Prefer applicant with college degree, between ages of 35 and 45. Excellent retirement plan, life insurance, and hospitalization benefits.

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Holding Nuts. Manufactured to
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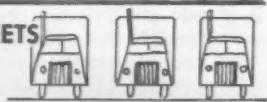
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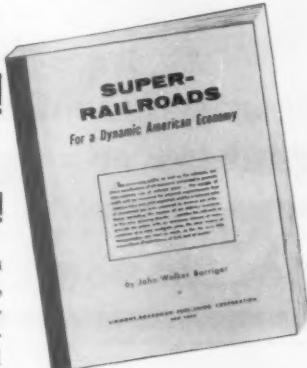
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Davis, S. M.	60
Dearborn Chemical Company	53
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Erman-Howell Division	60
Exide Industrial Division, Electric Storage Battery Company	57
Farr Company	46
General American Transportation Corporation	54
General Chemical Division, Allied Chemical & Dye Corp.	Back Cover
General Steel Castings	17
Graybar Electric Co., Inc.	52
Griffin Wheel Company	14, 15
Hotel Hamilton	16
Hunt Company, Robert W.	60
Hyatt Bearings Division, General Motors Corporation	4
Institute of Thread Machiners	43
Iron & Steel Products, Inc.	60
Kim Hotstart Mfg. Co.	61
Lewis Bolt & Nut Company	61
Magnus Metal Corporation	6
Mahon Company, R. C.	18
Miller Lubricator Company	61
National Malleable & Steel Castings Company	20, 21
Nordberg Manufacturing Company	24, 25
Oakite Products, Inc.	22
Okonite Company, The	32
Portland Cement Association	60
Railroad Friction Products Corporation	28, 29
Railway Educational Bureau, The	60
Remington Rand Division, Sperry-Rand Corporation	27
Safety Industries, Inc.	55
Standard Car Truck Company	49
Standard Railway Equipment Co.	23
Tennessee Coal & Iron Division, United States Steel Corporation	50, 51
Union Switch & Signal Division of Westinghouse Air Brake Company	2
Uni-Pak Corp.	59
United Iron & Metal Co., Inc.	60
United States Steel Corporation, United States Steel Export Company	50, 51
Vanadium Corporation of America	56
Walmsley & Associates, Charles A.	60

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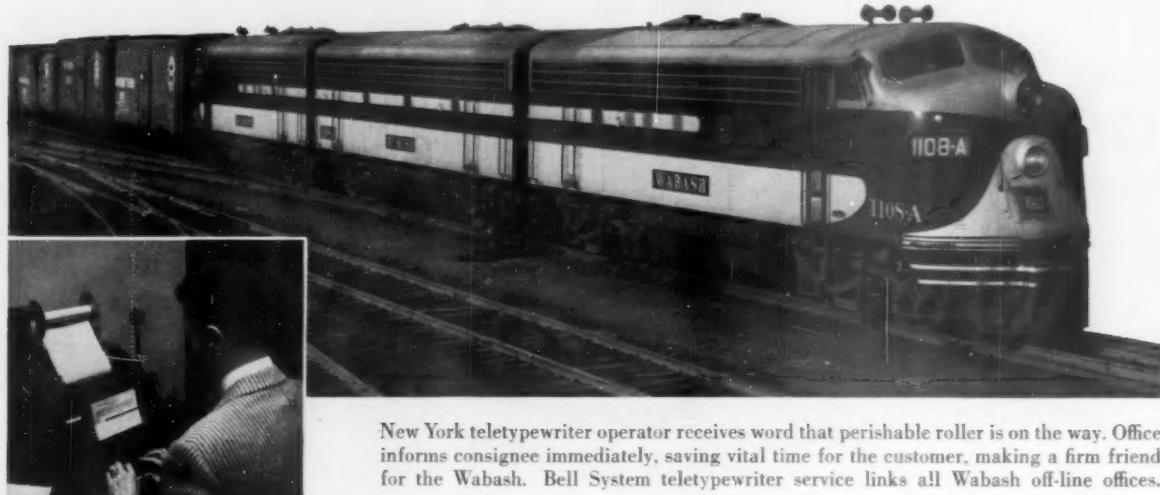
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